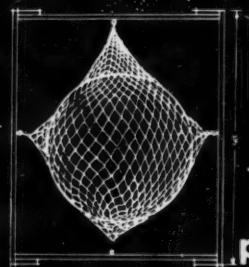


# FLOW

THE FIRST MAGAZINE OF MATERIAL HANDLING

DECEMBER 1957

STEVEN RICE  
UNIVERSITY MICROFILMS  
315 N FIRST ST  
ANN ARBOR MICH  
FIZ-7381



**PACKAGING A SATELLITE**

**page 82**

... The **FIRST** magazine in the material handling industry.

- The preferred reading of more than 40,000 identified buyers of material handling, packaging and shipping equipment and supplies

FORGED STEEL FOR SURPLUS STRENGTH

NOELTING

# Faultless CASTER

## EXCLUSIVE HORN CONSTRUCTION RESISTS SHOCKS, PROTECTS LOADS

For safe movement of tremendous loads on casters capable of resisting high impact shocks, yet swivel and roll with minimum effort, Faultless presents a materials-handling man's answer in the H1600 Forged Steel Caster.

Faultless design engineers drew on a background of more than fifty years experience with caster problems when they perfected an exclusive heavy duty horn design pronounced the most durable forged steel construction ever offered in a caster.

The cutaway illustration shows the large diameter raceway and large ball bearings that carry the load around machined hardened surfaces. A Timken combined radial and thrust bearing is nested in the horn top plate. Timken tapered roller bearings are also furnished in the Forged Steel and Semi-steel wheels.

### ASK YOUR DISTRIBUTOR

If your movements of excessively heavy loads are encountering high impact shocks, your problem will be solved with this new H1600 Series Forged Steel Caster. Your nearby Faultless Industrial Distributor maintains a substantial inventory of Faultless Casters for immediate delivery. Call him today about this new H1600 Series Caster.

H 1600

HEAVY DUTY



### Exclusive with Faultless

For the most durable construction possible to make Faultless engineers machined the heavy drop forged horn top plate to form strong shoulders against which the heavy steel side members or legs are securely welded. The load strains are thus transferred from the welding bead to the top plate—the most durable forged steel construction made.

H 1600 SERIES HEAVY DUTY CASTER  
SHOWN WITH FORGED STEEL WHEEL



### DESIGN FEATURES

1. HEAVY DROP FORGED CASTER TOP PLATE machined for load bearing balls.
2. HEAVY DROP FORGED HORN TOP PLATE machined for load and thrust bearing raceways.
3. SWIVEL HEAD consists of a complete row of hardened ball bearings operating in lubricated machined raceway and Timken combined radial and thrust bearing. Raceways case-hardened.
4. CASTER HORN LEGS made of heavy steel, deeply embossed and formed for additional strength. The embossing forms a shoulder to prevent axle from turning. NOTE: The forged top plate of the horn is machined to form a perfect shoulder against which the side members or legs of the horn are securely welded, thus transferring the strains from the welding bead to the top plate—the most durable forged steel construction made—an exclusive FAULTLESS feature.
5. ADJUSTABLE KING BOLT 1" in diameter, assembled with lock-nut and securely staked.
6. AXLE BOLT 1" in diameter. Bolt head held against horn embossing shoulder to prevent axle turning. Heavy duty lock nut is standard.
7. WHEEL—Forged steel wheel supplied in 6" size. Semi-steel wheel supplied in 8" size. Vulcanized rubber tread wheel supplied in 6" and 8" sizes. Roller bearing standard in all wheels. Timken tapered bearings can also be supplied in forged and semi-steel wheels.
8. GREASE FITTINGS easily accessible for fast, thorough lubrication of swivel head and wheel.
9. FINISH—lustre green lacquer.

FAULTLESS CASTER CORPORATION, EVANSVILLE 7, INDIANA

Offices in Atlanta, Baltimore, Boston, Buffalo, Chicago, Cleveland, Dallas, Detroit, Grand Rapids, Greenville, S. C., High Point,

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## Big or Small We'll retread them -in just two weeks

**N**O NEED to discard a caster wheel, once the tread of your industrial tire wears down. Most sizes can be restored to "like-new" condition by molding-on new rubber. We'll apply a factory-proved Goodyear retread—in *fourteen days or less*.

Here's how to take advantage of this time- and money-saving service:

**1.** Ready the wheels for shipment—remove bearings, races, washers and grease fittings—then turn them over to your Goodyear dealer for shipment to Goodyear Akron.

**2.** When we receive your wheels, we burn off the old rubber, shot blast the wheels and inspect them thoroughly. Next, we carefully weigh out the new rubber for each wheel and mold it on to factory specifications.

**3.** We ship your reconditioned wheels back to the Goodyear dealer, for delivery to you.

New wheels, with or without bearings, are available to replace chipped or broken wheels. Call your Goodyear dealer, or write:

Goodyear, Industrial Tire Sales, Akron 16, Ohio

*Use the Right Tire for the Job—Buy and Specify*

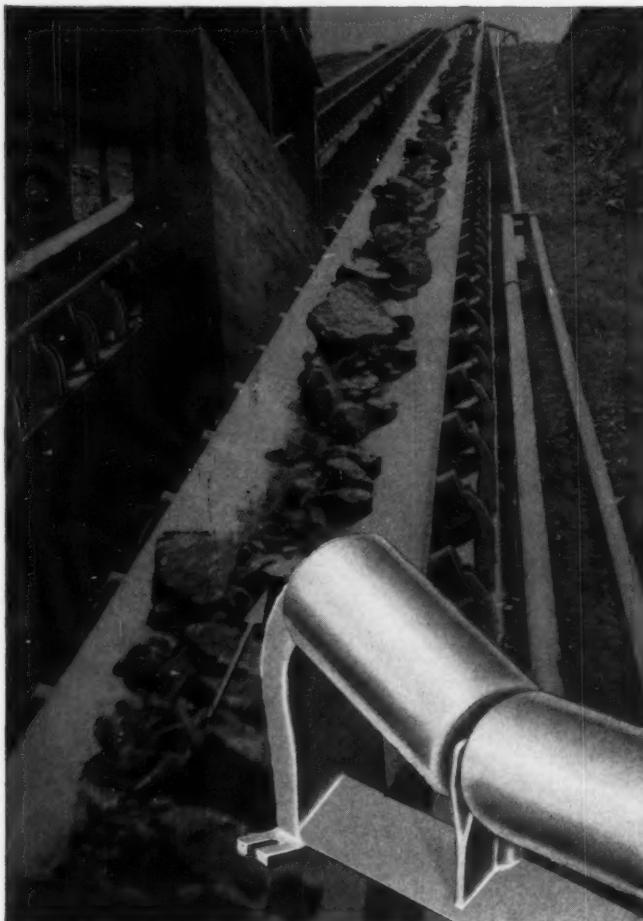
**GOOD**  **YEAR**  
INDUSTRIAL TIRES

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DECEMBER, 1957



your best investment for the LONG-HAUL...



**S-A QUALITY FEATURES THAT  
ASSURE DEPENDABLE FULL-  
CAPACITY CONVEYING**

- **SPUN END, ONE-PIECE ROLLERS** . . . consisting of carrying surface and ends spun from a single piece of heavy gauge steel tubing plus an inner bearing tube welded to the spun ends.
- **PERMANENTLY SEALED** . . . precision ball or roller bearings are protected by a die cast labyrinth seal that will not corrode or wear . . . grease stays in, dust and dirt stay out.
- **PRE-LUBRICATED** . . . sufficient grease to last the normal life of each carrier is sealed into each roller at the factory. Alemite fittings also provide for easy re-lubrication if necessary.
- **QUICK-CHANGE ROLLER** . . . pre-adjusted rollers easily slide in or out of the hex slots in the end plates . . . provides fast roller changes without the use of tools.

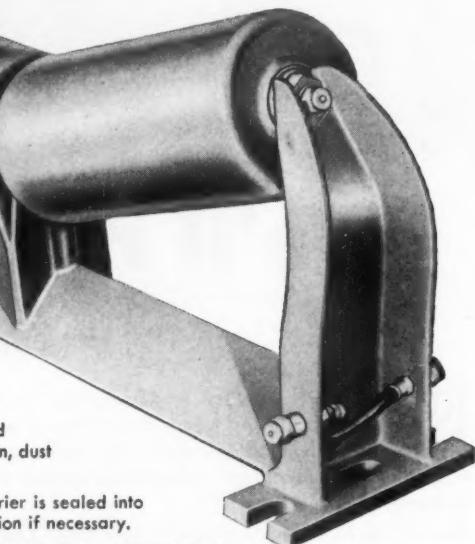
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**STEPHEN S-ADAMSON  
CARRIERS**

Compare before you buy . . . check the many outstanding features of S-A Carriers. You'll be pleasantly surprised to find out how economical these "top-quality" units are to install and maintain . . . in fact, it will cost you more to settle for anything less than STEPHENS-ADAMSON Carriers. Stocked for immediate delivery. Available in roller angles of 20°, 35°, and 45°, roller diameters of 4", 5", and 6", and for belt widths up to 60"



**S-A Standard Industrial Products**

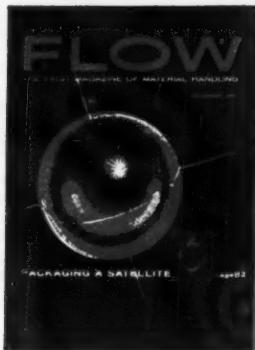
STEPHEN S-ADAMSON offers a complete line of "in stock" bulk material handling products. They are ready for immediate shipment from the S-A distributor in your area. For information, request Catalog No. 60.

STANDARD PRODUCTS DIVISION  
**STEPHEN S-ADAMSON**  
MFG. CO.

36 Ridgeway Ave.

Aurora, Illinois

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**COVER:** It's just possible you may never be called upon to package a space satellite, or to handle one. But, on the other hand, you may some day find yourself faced with a tough and unexpected problem, as did Brooks & Perkins, Inc. B&P's solution amounts to an unusual application of sound packaging techniques. See page 82.

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Complete summary of the 1957 SIPMHE Show

**99 RANGES SHIPPED FREE**

Packaging & Shipping Idea of the Month



**BPA**

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readers' guide continues on next page

# Magcoa DOCKBOARDS For Safety



Avoid  
Accidents

Magcoa  
Dockboards  
with  
Special Locks



Give  
100%  
Safety

**No slips, no strains,  
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- ✓ Special locks prevent any Dockboard slippage—regardless of conditions
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- ✓ Indented, safety hand holds end danger of crushed fingers or hands
- ✓ Magcoa Dockboards—the safest buy for any dock



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Please send special Dockboard File  
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## FLOW

the first magazine of material handling  
volume 13 number 3

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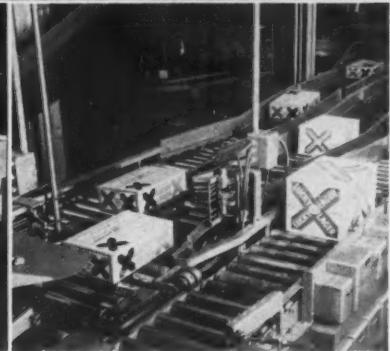
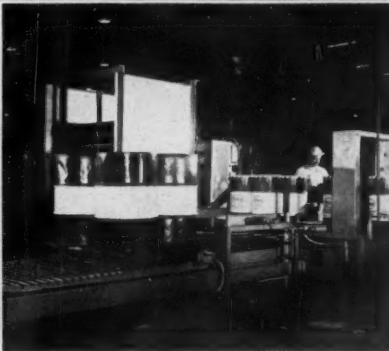
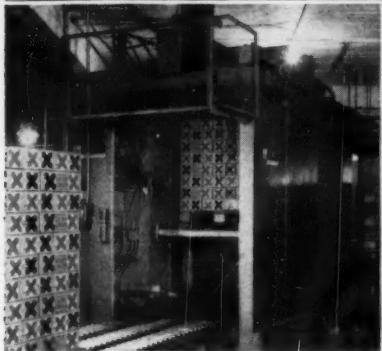
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**NEXT MONTH IN FLOW** you'll find a description of a plant where horseshoes provide the key to highly efficient production flow; a report on possibly the most extensive study yet made to cover resilient cushioning materials; and some excellent examples of latest techniques developed for handling bulk in several industries.

FLOW

# How FMC SYSTEMS ENGINEERS are automating materials handling

**NEW HIGHS IN PRODUCTION SPEED, HANDLING SAFETY,  
AND MANY OTHER SAVINGS—TO INCREASE YOUR PLANT  
EFFICIENCY AND BOOST YOUR PROFITS...**



**FMC LOCK-LOAD PALLETIZER** stacks up to 36 cases of beer per minute—automatically!

This revolutionary new palletizer offers speed, handling safety and precision in palletizing never before possible. From infeed conveyor it loads and lowers cases and cartons onto pallets in interlocking patterns, then discharges loaded pallets. Pallet patterns are pre-set by the turn of a dial! No plant modification for a plunger pit is necessary with the electro-mechanically operated FMC LOCK-LOAD Palletizer. Immediate accessibility to parts simplifies maintenance. Write for profusely illustrated, fact-filled bulletin "FMC LOCK-LOAD PALLETIZER," today.

**One machine, FMC BARREL LOADER,** palletizes 455 lb. drums, 120 lb. kegs or 35 lb. pails—safely—automatically!

This single machine handles different-sized, varying weight containers quickly, safely, and automatically. The versatile FMC BARREL LOADER results in greatly reduced production costs, fewer lost-time accidents, elimination of container damage, startling savings in manpower and floor space. Its dependable electro-mechanical and hydraulic operation removes the production snags of hand operation, cuts equipment maintenance and down-time to the minimum. Truly a modern miracle of material handling machinery; fully described and illustrated in bulletin "FMC PALLET LOADER-UNLOADER."

## **EXCLUSIVE FMC CASE SEGREGATOR**

*Can save up to thousands of dollars  
in conveyor costs!*

Cases enter the segregator on one common conveyor, thereby eliminating the need for duplicate conveyor found in conventional systems. Mechanical fingers of the segregator automatically measure and cause the transfer of different size cases to individual conveyors. Perhaps FMC engineers can incorporate this machine into your present conveyor system.

FMC ENGINEERS are ready to follow through with you from an engineering proposal to a properly working materials handling system.

### *Automated Systems*

#### **ACCESSORIES:**

**POWER AND GRAVITY CONVEYORS  
ELECTRONIC CONTROLS  
CASE STACKERS & UNSTACKERS  
SEGREGATORS & DIVERTERS  
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*Putting Ideas to Work*

**FOOD MACHINERY AND CHEMICAL CORPORATION**

*Materials Handling Section, Riverside, California—CHICAGO • SAN FRANCISCO • LOS ANGELES*

Please send me literature:

"FMC LOCK-LOAD PALLETIZER"    "FMC PALLET LOADER-UNLOADER"    "FMC BARREL LOADER"    "FMC CASE SEGREGATOR"

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Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_

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DECEMBER, 1957



**ATLANTA PAPER CO.**—“We put the *Clarklift* through our toughest performance tests,” reports Frank Marshall, Director of Traffic. “It outdid anything else, actually set new standards in our evaluation of fork trucks. As a result, we’re so sure the *Clarklift* is the best truck of its kind on the market, we ordered 12 of them.”

## HERE'S WHAT ATLANTA THINKS OF THE NEW CLARKLIFT

Greater Atlanta has a population of 885,000, yet over 33,000 U.S. companies have representation there. “Nearly everyone has an office, a plant or a branch here . . .,” including the Federal Government which maintains 76 different agencies in Atlanta. This city has been called the hub of the Southeast, the transportation and communications center of the South, a center for modern industry.

Landscaped, brightly colored factories dominate the industrial areas. More than a quarter of the manufacturing plants are new. This city has awakened to its

role as an industrial giant. It's this newness, this industrial awareness that reflects best the innovation that is *Clarklift*.

*Clarklift* is a fork lift truck. Four years ago it was a model designed for the future called X-70. Now it's a practical reality. Designed into it are the features industry requested that would guarantee unprecedented efficiency at lowest possible operating costs. A president of one of Atlanta's growing companies summed it up this way, “. . . All our employees are excited about this lift truck because it will enable them to do a better job with

less effort. That's just plain dollars and cents value to me.”

How can a fork truck cause such excitement? Test the *Clarklift* yourself and see. Just call your local Clark dealer (listed in the Yellow Pages), or write us direct, and ask for a demonstration.

Industrial Truck Division

CLARK  
EQUIPMENT  
COMPANY  
Battle Creek 13,  
Michigan

CLARK  
EQUIPMENT

CLARKLIFT is a trademark of Clark Equipment Company

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**GRINNELL CO., INC.**—“What we like most about this truck is the automatic transmission. It's a lot faster than having to shift gears . . . and it makes driving easier too,” said the Warehouse Superintendent. “In tight places, for example, it's important not to have to concentrate on shifting gears. This truck's a beaut.”



**GIBSON MANUFACTURING**—“Because of the nature of our product (commercial and industrial lighting fixtures) gentle handling is particularly important to us. We bought our *Clarklift* to cut expensive product damage caused by handling,” reports R. R. Gibson, President. “. . . the *Clarklift* stood out above all others in stability and smooth performance. We're sold.”



**CAMPBELL COAL CO.**—“As one of the South's largest suppliers of building materials we handle millions of board feet of lumber,” says C. T. Drake, Mill Superintendent. “Our Clarks keep pace with our heavy handling needs . . . move large and awkward loads under the most adverse conditions.”



**LARKIN COILS, INC.**—“This truck works well in tight spots such as loading a trailer,” said Bill King, Shipping Clerk. “And another thing, this truck can't run away from you. When you get off the seat, the emergency brake goes on. It's a safety feature we especially like.”



**SOUTHERN BONDED WAREHOUSE CO.**—“We're fully palletized,” said Bill Rooker, President. “Everything comes in on pallets, is handled on pallets, goes out on pallets. And we handle everything . . . auto engines, foods, chemicals, paper —you name it. Because we're so conscious of mechanized handling, we were determined to get the best. We found no rival to your *Clarklifts*.”

# Stacking Problem? call EMI



**anything can be  
"well stacked"  
or shipped on EMI racks**

Big or little, strong or fragile,  
*anything* stacks or ships better on

EMI quality racks. They  
protect stock, cut handling costs  
and speed inventory.

EMI RACKS are made of strong,  
tubular steel and are adjustable to fit  
any space or unit load. Special  
racks designed to your specifications  
with field engineering  
service on any installation.

Write for our illustrated catalog  
before you plan additional storage  
space or the purchase of stacking  
or shipping equipment.

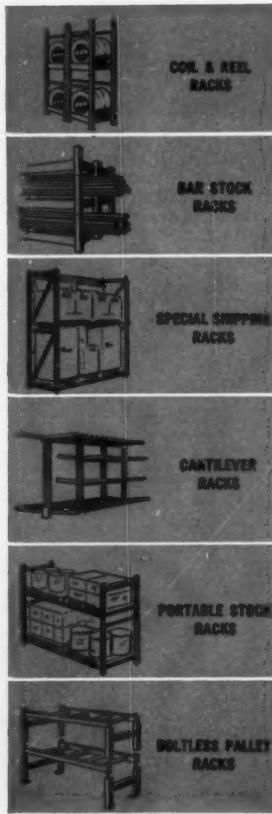
## Well Stacked Racks for Industry

# EQUIPMENT MFG. INC.

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DETROIT 5, MICHIGAN

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## LETTERS

TO THE

EDITORS

### Post Office Needs New Methods

To FLOW:

I think you are doing a very fine thing for the Post Office Department by getting some of the leading brains in the country to study the Department's problems. The handling of mail is pretty much as it was twenty or thirty years ago, and certainly some more modern ways can be applied to handle this commodity.

I hope the committee (POHAC) won't be just "pie in the sky," but will get down to some facts and recommendations which the Post Office Department will accept.

This is a good example of what publications can do to help industry.

D. H. Bitney, vice president  
Union Steel Products Company  
Albion, Michigan

The editors of FLOW are just as anxious as our readers to keep "cloud 9" thinking out of POHAC planning. A new development is now pending in Congress. Bill No. HR 7390, if passed, will limit the use of advisory committees by Government agencies. The motive is to keep persons with possible commercial interests out of Government operations. If the bill goes through, equipment manufacturers' representatives will not be allowed on POHAC's central committee.

### FLOW Goes to India

To FLOW:

The writer is a former member of AMHS, and because of this, a reader of FLOW over a period of almost three years in the States. Now in India, I am pleased to say that Uncle Sam sends the maga-

zine to this office and it continues to give me good counsel.

I am anxious to obtain a manual giving complete specifications regarding the various standard size pallets, i. e. sizes, materials, detailed dimensions, fasteners, etc. Contemplated use would be in connection with stevedoring general cargo from ship holds to warehouses, or vice-versa.

Charles R. Jackson, TCM  
American Embassy, New Delhi  
c/o Dept. of State Mail Room  
Washington 25, D. C.

*The American Standards Association and a special committee of the Society of Industrial Packaging and National Handling Engineers are working hard on a project of pallet standardization. Anyone having further information is invited to write directly to Reader Jackson. Address correspondence to the above address, or to FLOW.*

#### LPG Reprints Still in Demand

To FLOW:

Will you please send the writer 20 copies of the article "LP-Gas for Industrial Trucks" as published in your May, 1957 issue.

R. H. Muellerleile  
Cities Service Oil Company  
Chicago, Illinois

*Articles on LP-Gas are still among the most widely accepted ever printed in FLOW, judging from requests for reprints. Copies have been sent to Reader Muellerleile as requested.*

To FLOW:

The article, "Effect of Inclination Angles on Capacity of Belt Conveyors", in your July issue should be of valuable assistance in both reappraising present operations and evaluating future ones. I would appreciate information on how a reprint of this article can be obtained.

Donald E. West  
The Dow Chemical Company  
Midland, Michigan

*Not all articles are reprinted, but when they are copies are always available while they last.*

DECEMBER, 1957

# WENDWAY

## the conveyor that pays for itself!

Wendway is perfectly suited to the cooling of raw products, packages or containers. This spiral system travels at ceiling height to conserve floor space.



This small, single tier Wendway conveyor is used to convey small packages from bag loaders through a series of stapling machines.



A typical package conveyor installation, this three-tier Wendway system extends throughout the plant and carries a steady flow of products to waiting trucks.

• You'll be amazed at how quickly a Wendway conveyor system will pay for itself in your plant. A Wendway system will eliminate multiple handling of products, save man hours and floor space—all while conveying your products swiftly, silently, safely and economically to any desired location.

Wendway is Industry's most versatile conveyor. Its steel wire belting is ideal for any light product, carton, food, etc., up to twenty pounds per unit. It does not sag or accumulate dirt like ordinary belting and can be kept highly sanitary.

**Will it work efficiently in your plant? Certainly! Prove it to yourself by returning the coupon below for additional information about Wendway—today!**



Gentlemen: Please send me additional information about Wendway for conveying \_\_\_\_\_

Name \_\_\_\_\_

Company \_\_\_\_\_

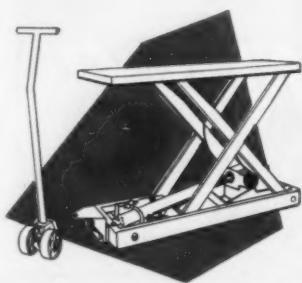
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City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

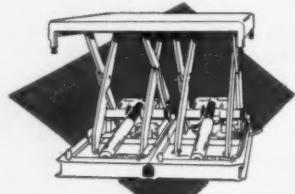
Please have a USP Conveyor engineer contact me at once

UNION STEEL PRODUCTS COMPANY  
ALBION, MICHIGAN

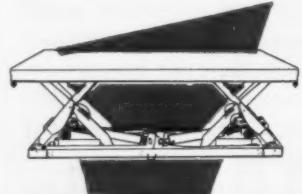
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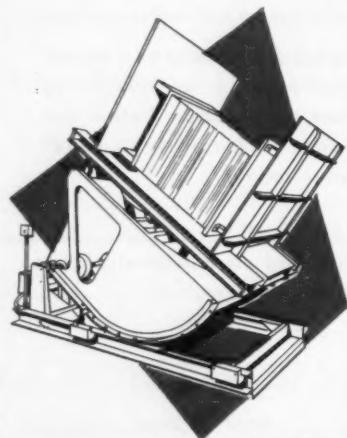
Southworth Portable 2000 lb. Lift Table shown extended with dolly. Can be used to shift light loads on short hauls. No installation cost. Simply plug it in.



Southworth Twin (48" x 53" min.) Lift Tables available in varying capacities up to 24,000 lbs. Hinged platform makes servicing easy in totally collapsed position.



Southworth Tandem (24" x 106" min.) Lift Table available also in capacities up to 24,000 lbs. Note entirely self-contained pump assembly and working parts.



Southworth Skid-Turner turns full skid of material in less than three minutes. One man operated. Push button control. Capacity 5,000 lbs.

## THE NEW PORTABLE SOUTHWORTH LIFT TABLE



### MOTOR, PUMP AND LIFT MECHANISM ARE COMPLETELY SELF-CONTAINED

As all moving parts are *within the frame*, the Southworth Lift Table offers several unusual operating advantages. First, it is portable, designed to slide under standard skids, and can be readily shifted from one location to another. Second, there are absolutely no external elements to hinder the operator's approach to the work load . . . no structural inconveniences to slow him down at any angle at any height. Third, the outside dimensions of the top represent the true maximum working area. Fourth, its compact design actually facilitates routine servicing or lubrication, a hinged top giving immediate accessibility in the collapsed position illustrated.

But the greatest advantage of all, of course, is the way in which this handy work positioner increases the effective utilization of heavy-investment production equipment . . . cutting handling time at feeding end, or delivery end, to the bone!

#### BASIC SPECIFICATIONS

Capacities	2000 lbs.	4000 lbs.	6000 lbs.
Platform Size (Min.)	19 1/2" x 53"	24" x 53"	30" x 60"
Collapsed Height	6"	7"	8"
Extended Height	36"	37"	40"
Controls . . .	Foot or Hand Switch		
Motors . . .	Single Phase on Standard Models		
Hydraulics . . .	Pump actuated ram with relief and solenoid valves.		
Larger, or special purpose, platforms available on all standard models. Greater vertical platform travel also available in a variety of capacities. Write for specifications on these and on other tables with capacities up to 24,000 lbs.			

For Further Details Write:



## SOUTHWORTH MACHINE CO.

3012 WARREN AVENUE, PORTLAND, MAINE

Manufacturers of Paper Conditioners; Automatic Skid Lifts; Skid Turners; Hand, Foot, Motor Driven Punching Machines; Humidifiers; Envelope Presses; Punch Heads; Tabbing Knives and Corner Cutters plus Custom Built Equipment.

ELIMINATE FATIGUE • REDUCE HANDLING TIME • INCREASE PRODUCTION

Circle No. 121 on Reader Service Card for more information



## He moves a 30-oz. lever; the Gerlinger moves 30,000 lbs.

Where extra power is needed to lift, move and stack capacity loads up to 40,000 pounds, Gerlinger giants like this one do the job like no other fork lift trucks built. And do it with instant fingertip control!

More and more industrial plants, mills and foundries are finding out that top production and profits go hand-in-hand with the mass-handling efficiency you get with a job-proved Gerlinger.

You'll see your investment pay off almost immediately—made possible through Gerlinger features like these:

- *Pivotal-mounted steering assembly*  
—stabilizing load on any road
- *One-lever lift-tilt control*  
—positioned for safer operation
- *Counter-active weight distribution*  
—better traction, maneuverability
- *Heavy-duty steel channel frame*  
—bonus years of reliable service

- *Maximum-power torque converter*  
—smoother driving, less wear
- New records of production and profit are the usual report when Gerlinger Fork Lift Trucks are on the job. Get latest catalog and see the many ways you will benefit. Write Gerlinger Carrier Co., Dallas, Oregon.

Leaders for 38 years  
in building Fork Lift  
Trucks and Carriers



Gerlinger Carrier Co., Dallas, Oregon, is a subsidiary of Towmotor Corporation, Cleveland, Ohio.

Circle No. 131 on Reader Service Card for more information

DECEMBER, 1957

# BARRETT

## Guide-O-Matic

the versatile, economical  
system that moves loads  
anywhere...automatically



### GUIDE-O-MATIC...

THE LATEST DEVELOPMENT IN MATERIALS HANDLING.

### needs no operator

- No permanent floor chain
- No overhead conveyor

Choice of 4 low-cost guidance methods:

1. Wire "in the floor"
2. Wire "on the floor" with tape
3. Wire overhead
4. Optical guideline

**GUIDE-O-MATIC** is new...cost saving...adaptable. No operator is needed to guide it along any route. Routes are pre-set—can be changed or added to at any time. Safe—will not stray from path. Bulletin 566 gives complete illustrated information.

BARRETT-CRAVENS COMPANY  
614 Dundee Road • Northbrook, Illinois

GUIDE-O-MATIC NEEDS NO OPERATOR  
**BARRETT**

Circle 13 on Reader Service Card for more information

12

Now TROUBLE-FREE OPERATION  
with RUBBAIR® DOOR!



— NO SLOWING OR STOPPING —



— EASY OPENING ON IMPACT —



— NO INJURY TO LOADS, PERSONNEL  
OR DOOR —



— FAST SELF-CLOSING —

"MAINTENANCE ALMOST NIL"  
say satisfied users:

RUBBAIR® Door's built in "FLEX" absorbs impact and shock. Saves costly door and hardware repair and replacement. Slowing or stopping is unnecessary. Therefore, saves time and money, speeds materials handling.

Check these superior construction advantages:

- |                               |                               |
|-------------------------------|-------------------------------|
| ✓ Tough Flexible Construction | ✓ Scuff-Resistant Wear Panels |
| ✓ Safety-Cushion Nose         | ✓ Positive Air Seal           |
| ✓ Rugged V-Cam Hinges         | ✓ Shatterproof Windows        |

RUBBAIR® Door is also lightweight, durable, quiet and safe. Recommended for factories, mills, warehouses, terminals, loading platforms, cold storage or refrigerated rooms. They are also used for conveyors, ducts and chutes. All are fabricated to your specifications.

RUBBAIR® Doors are available in colors, too, for office, hospital, supermarket or restaurant installations.

If you have a door maintenance problem let us help you solve it. Write us the details or send for free illustrated catalogue.

MANUFACTURING CO., INC.  
RUBBAIR® DOOR DIVISION  
58 Regent Street  
Cambridge 40, Massachusetts

Circle 126 on Reader Service Card for more information  
FLOW



**"One man  
with a hammer"  
quickly assembles  
Ackermann**

**BAND-BOX**  
PATENT APPLIED FOR

THE IDEAL SOLUTION TO SHIPPING AND STORAGE PROBLEMS. Forget everything you've heard about shipping containers—the Ackermann Band-Box makes all others seem "old fashioned." For here is a collapsible steel shipping container that completely assembles with clips quickly, positively—without rushing!

And what a shipping container the Band-Box is. *Stack it*—the Band-Box is self-palletizing. *Ship it*—it's strong, rugged and withstands rough treatment. *Store it*—it's painted, bond-erized and when given a full cover gives contents utmost protection. And the Band-Box can be completely knocked down in a hurry and the parts nested for prompt return.

Get complete details on the Band-Box, available with Stack-Lock Corners (as shown) or with full cover. Write, wire or call Ackermann Manufacturing Company (Subsidiary of Wheeling Steel Corporation), Wheeling, West Virginia.



**IT'S WHEELING STEEL**

Clip fastener positively holds sides and Stack-Lock Corners. Used also to attach full cover.



1. Band-Box components nested on pallet take up little room.

2. Two sides go into place as the first step in Band-Box assembly.



3. After third side is added, clip fastener slips into corner slots. Sides hold securely.



4. Final fastener is inserted, completing assembly of sides.



5. Stack-Lock Corners are fastened positively to sides and Band-Box is ready to go!



Circle No. 152 on Reader Service Card for more information

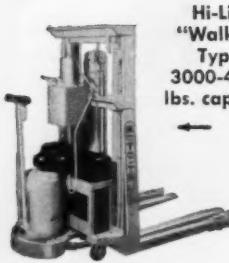
DECEMBER, 1957

**Sales volume up...  
net profit down...**

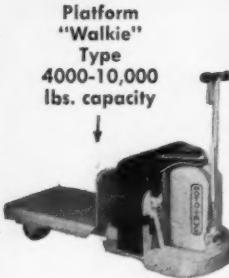
**why not do something about it?**

**Cut material  
handling  
costs with**

**MOTO-  
TRUC**



Hi-Lift  
"Walkie"  
Type  
3000-4000  
lbs. capacity



Platform  
"Walkie"  
Type  
4000-10,000  
lbs. capacity



Grip-All  
Tractor



Pallet Type  
"Walkie" truck  
4000-6000  
lbs. capacity

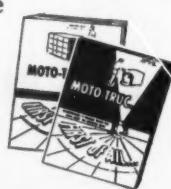
MOTO-TRUC will be one of the best investments you ever made. Modern, functional design and rugged dependability assure lowest operating costs. Small size and easy maneuverability enable MOTO-TRUCs to work efficiently in tight spots where larger trucks can't.

MOTO-TRUC builds only the rugged, powerful, quick moving "Walkie" and "small rider" trucks. Any business with material handling problems regardless of its size, needs MOTO-TRUCs.

MOTO-TRUCs' many exclusive and important features insure efficient and economical operation, and many, many years of faithful service.

Help to lick old man "overhead" by putting MOTO-TRUC on the job. Your local Dealer will give you full details. He'll be glad to help you solve your material handling problems.

We'll be glad to send you catalog  
No. 56W Walkie Trucks and No.  
56R Rider Trucks upon request.



**Builders Of The First Walkie Truck**

**The MOTO-TRUC Co.**

Representatives in Principal Cities

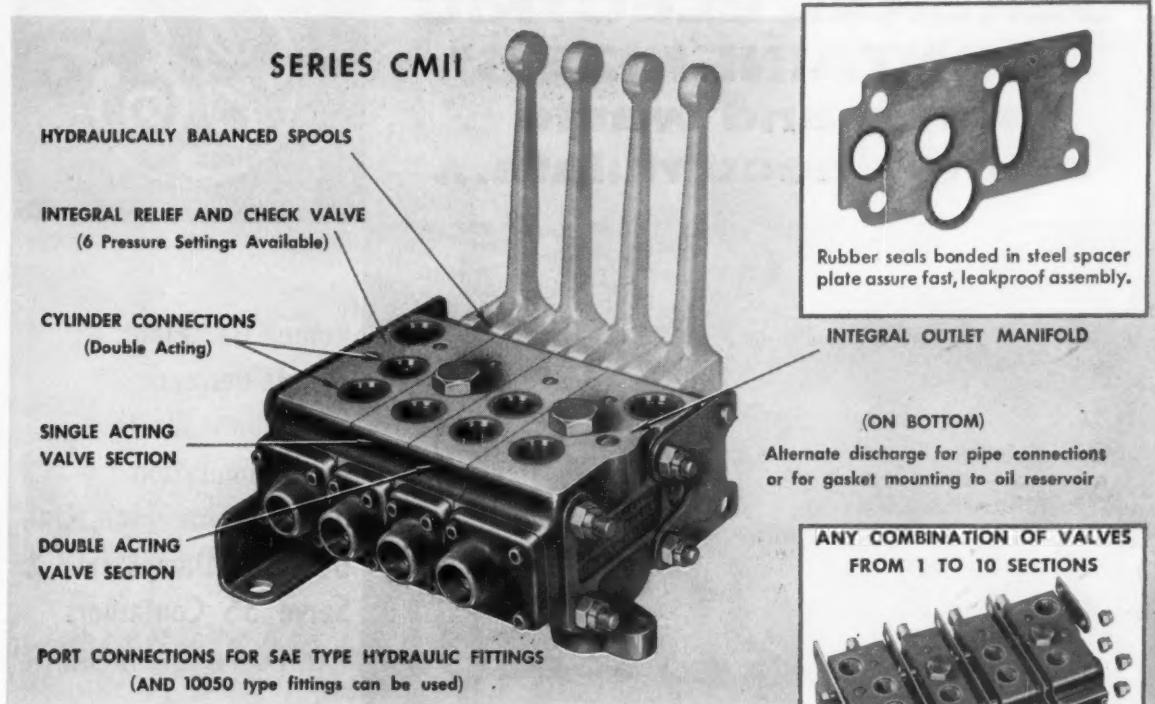
1955 E. 59th St., Cleveland 3, Ohio

Pallet... Platform... Hi-Lift Truck



Circle No. 94 on Reader Service Card for more information

# For Improved Operation of Mobile Equipment



## Improved Vickers CMII Multiple Unit Valves

Improved control, greater convenience and economy have been provided by this new design of Vickers Series CMII Multiple Unit Valves. They are widely used on such applications as: material handling equipment, farm tractors, construction and mining machinery, bucket loaders, and many other types of mobile equipment where accurate control of hydraulic power is required.

### Simultaneous Functions

Valves may be operated individually or simultaneously. Saves operator's time on the job. Full pump delivery is available at any one valve when operated singly.

### Precise Control

Improved metering characteristics and Vickers exclusive porting arrangement make possible a smooth and selective control... greater precision in nudging, crowding, inching and positioning. Valve spools are spring centered to neutral position and hydraulically balanced to prevent kicking-out due to excessive back pressure or surges. A check valve in the inlet prevents pressure surges at the cylinder from acting destructively on the pump.

### Overload Protection

Tamper-proof integral relief valve provides excellent overload protection and low override characteristics. Relief valve is preset at factory to any one of 6 cracking pressures from 500 to 1750 psi (250 psi increments).

### High Capacity

Maximum capacity is 12 gpm with three or less valve sections, or 9 gpm with over 3 valve sections. Maximum working pressure is 2000 psi.

### Sectional Assembly

A high degree of control flexibility from minimum inventory is assured users requiring a variety of valve assemblies.

### Seal Plate Subassembly

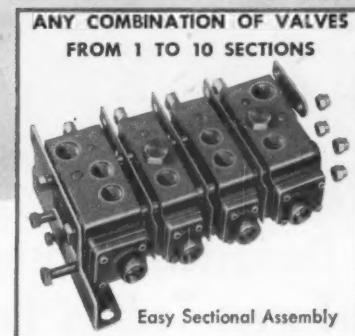
Steel spacer plate with rubber seals bonded in place allows rapid, leak-proof assembly of valve sections. Plate subassembly permits instant, positive joining of sections with no danger of overstressed through bolts and cramped valve spools.

### Minimum Space and Weight

Simplified design and construction characterize CMII valve assemblies. Valve end sections combine in one casting the inlet or outlet manifold together with any operating valve section... saving space and weight.

Circle No. 138 on Reader Service Card for more information

DECEMBER, 1957



### Easy Mounting

Mounting is a simple three-point installation. Cylinder connections are  $\frac{1}{8}$ -16 UNF-2B thread (SAE type)... inlet and discharge ports are  $\frac{1}{4}$ -16 UNF-2B thread (SAE type). Alternate discharge connections in bottom of end sections provides for gasket mounting to oil reservoir or to  $\frac{1}{2}$ " threaded pipe.

### Interchangeability

Interchangeable valve sections assemble for both original and conversion equipment with minimum stock requirements. Added operations are quickly accommodated simply by adding suitable valve sections.

For further information, write for Bulletin M5101A.

7852

## VICKERS INCORPORATED

DIVISION OF SPERRY RAND CORPORATION

Mobile Hydraulics Division

ADMINISTRATIVE and ENGINEERING CENTER

Department 153B • Detroit 32, Michigan

Application Engineering Offices: ATLANTA • CHICAGO  
CINCINNATI • CLEVELAND • DETROIT • GRAND RAPIDS  
HOUSTON • LOS ANGELES AREA (El Segundo) • MINNEAPOLIS • NEW YORK AREA (Springfield, N.J.) • PITTSBURGH AREA (Mt. Lebanon) • PORTLAND, ORE. • ROCHESTER  
SAN FRANCISCO AREA (Berkeley) • SEATTLE • ST. LOUIS  
TULSA

IN CANADA: Vickers-Sperry of Canada, Ltd., Toronto  
and Montreal

# GENERAL ELECTRIC "CONTAINERIZES" scrap and waste as they accumulate...



Rome, Ga. Plant  
"Containerizes"  
Scrap and Waste  
at Accumulation  
Points...One Man, One  
Dempster-Dumpster  
Serve 36 Containers

## Dempster-Dumpster Disposal System Serves Today's Industrial Leaders...

Industrial waste disposal has passed the day of manual shoveling, rehandling, shaky bins, wheelbarrows or cumbersome carts. General Electric and other leaders "Containerize" waste when and where it originates by using clean, big capacity, Dempster-Dumpster Containers. Tremendous savings in disposal costs are made with the one-man, one-truck Dempster-Dumpster which can service over a hundred accumulation points, picking up, hauling and emptying containers on a planned shuttle schedule.

Savings are so great that thousands of users, large and small have amortized their equipment investments in 18 months or less. If you are now using costly conventional methods of handling rubbish, waste and scrap in your plant, it will pay you to send for the free booklet below.

FREE: Write Today for Your Copy of  
"How to Reduce Waste Disposal Costs."

**DEMPSTER BROTHERS, Knoxville 17, Tenn., Dept. F-12**

To: Dempster Brothers, Dept. F-12  
Knoxville, Tennessee

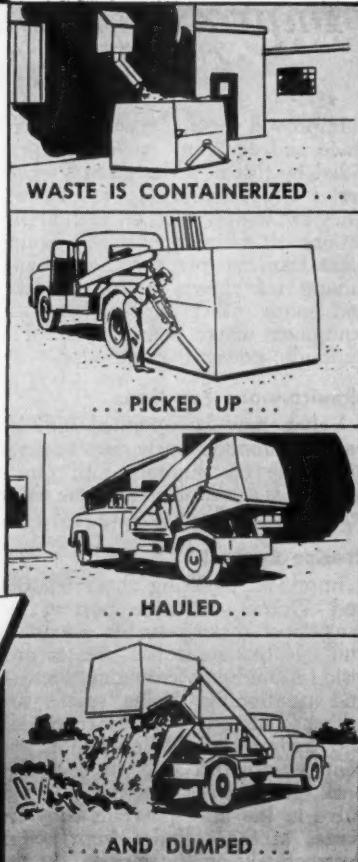
Please Send Without Obligation Your Booklet,  
"How to Reduce Waste Disposal Costs."

NAME.....TITLE.....

COMPANY.....

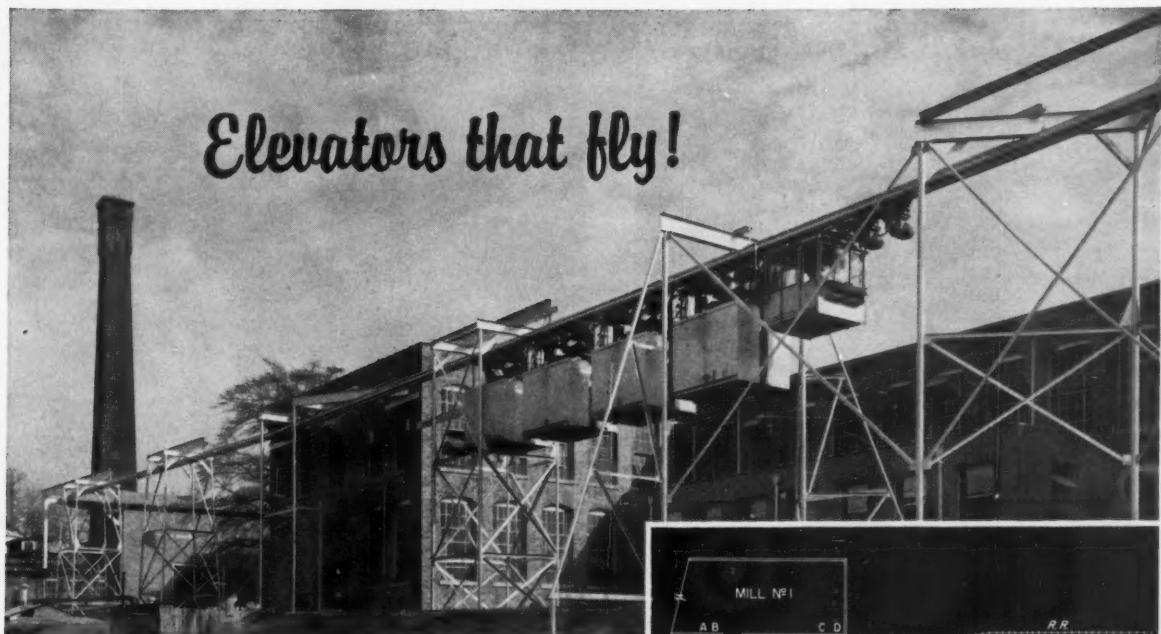
ADDRESS.....

CITY.....STATE.....



Circle No. 42 on Reader Service Card for more information

# Elevators that fly!



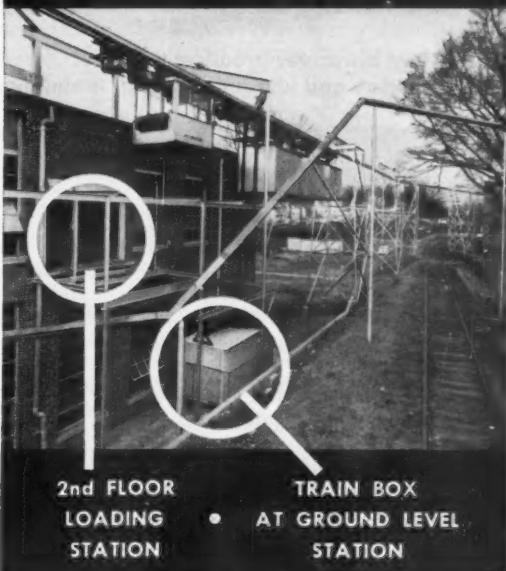
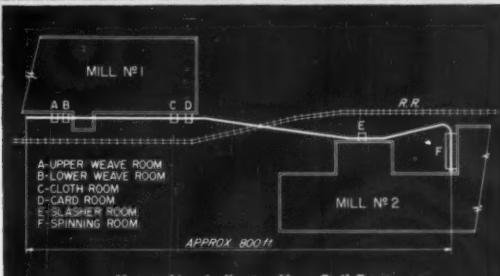
## AMERICAN MONORAIL

transports cars between 2 mills-  
stops at ground and upper level stations.

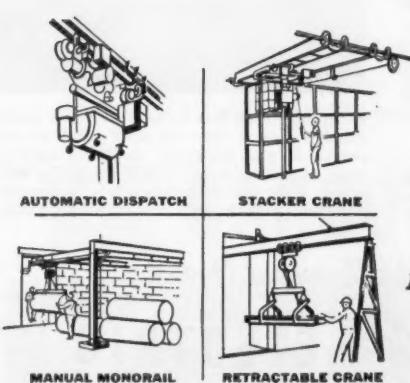
The equivalent of several elevator loads of material can be transported from building to building and from floor to floor by this modern materials handling system. Erected entirely out of doors, the MonoRail operates overhead, safely above railroad and all other traffic, and takes up no space at all inside the mills.

Loads transported consist of warp beams, boxes of filling quills, roving, trucks of drawing sliver and cloth. Approximately 132,000 lbs. from stations at each mill are transported during an 8-hour shift.

All operations can be controlled from the cab which is equipped with heaters, electric fans, windshield wipers, a gong and spotlights for night operation.



Member of American Textile Machinery Association  
For Power Driven Conveyors, Use Landahl Chainless Conveyors



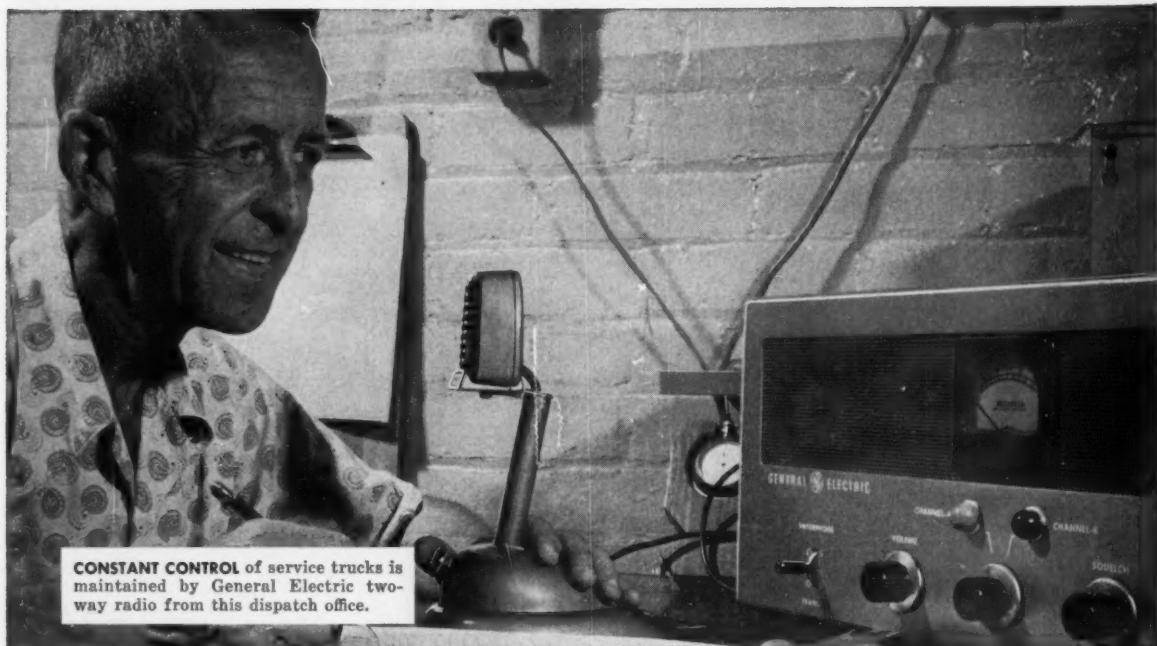
AMERICAN



# MONORAIL COMPANY

13129 ATHENS AVENUE • CLEVELAND 7, OHIO  
(IN CANADA—CANADIAN MONORAIL CO., LTD., GALT, ONT.)

Circle No. 5 on Reader Service Card for more information



## NORTON COMPANY NOW GETTING 6 TRUCKS' WORK OUT OF 5...with GENERAL ELECTRIC two-way RADIO

**Giant abrasives producer uses mobile radio to lessen waste motion and idle time in plant maintenance-construction.**

Operations at Norton Company's headquarters plant at Worcester, Mass. require the services of a 700-member plant-engineering department. Yet daily movement of 150-200 craftsmen—such as carpenters and steamfitters—as well as materials, around the plant of 113 buildings is handled smoothly because two-way radio provides constant contact with all strategic trucks.

"We have more efficiency of movement with five radio-equipped trucks than we could have with six trucks not radio-equipped," said Robert MacGregor, staff engineer. Radio greatly reduces backtracking and deadheading, saving many miles each year. Men and materials arrive and leave their work sites with virtually no idle time. He said also that production holdups for maintenance have been largely eliminated.

**Long tube life.** Norton Company se-

lected General Electric two-way radio because of its record for dependable service. Low maintenance costs during more than two years of service at Norton bear out the economy of General Electric equipment. These costs were cut even more when 6600-series communication-type tubes were recently installed in all Norton units. Only General Electric now supplies these long-lived, pre-tested tubes in all its radio units. Controlled reluctance microphones also provide high-fidelity audio standards.

**Broad financing, leasing, servicing programs.** You can increase the efficiency of your materials handling vehicles through the use of two-way radio. General Electric offers a complete and versatile line of two-way radio equipment to fit every application, with broad financing, leasing and servicing programs.



**RADIO-EQUIPPED TRUCKS** at Norton Company provide smooth flow of plant engineering personnel and materials daily throughout plant of 113 buildings, some a mile and a half apart. Five radio-equipped trucks provide more efficiency than six trucks without radio.



**FOR SALES AND SERVICE . . .** see "Radio Communication Equipment" in your Yellow Pages. Or, write: General Electric Co., Communication Products Department, 18127, Electronics Park, Syracuse, New York. In Canada: C.G.E. Electronics, 830 Lansdowne Avenue, Toronto.

Circle No. 59 on Reader Service Card for more information

*Progress Is Our Most Important Product*  
**GENERAL**  **ELECTRIC**

**FLOW**

# TRI-STATE ENGINEERING COMPANY

# CARGOTAINERS®

**PALLETS . . .  
CONVEYOR GUARD  
and other Materials  
Handling Equipment**



**CARGOTAINERS**

Cargotainer is Tri-State Engineering Company's registered trade name for the line of containers which the Company has manufactured since 1946. Thousands are now in use throughout industry, providing compact and convenient handling and storage of all types of products, parts, etc. They speed up loading and unloading of materials in shipping.

Cargotainers are available in three capacities (1, 2 and 3 ton); in two types of bases (which stack interchangeably); and with a wide variety of optional features such as full or partial drop ends or sides, crane eyes, vertical and horizontal dividers, etc.

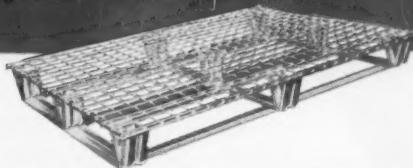
All types are collapsible, for space-saving storage and shipping when not in use. Standard sizes: 32" x 40" x 24"; 32" x 40" x 28" (3,000 lb. cap.); 36" x 46" x 24"; 40" x 48" x 24"; and 48" x 48" x 24".



**CARGOTAINER**  
DIVISION

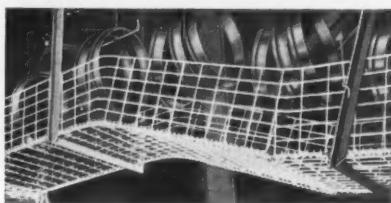
**TRI-STATE ENGINEERING COMPANY**

Tri-State materials handling equipment is constructed of heavy gauge steel wire—strong enough to stand up year after year in the hardest service, yet extremely light in weight. Corrosion-resistant, pre-heated vinyl aluminum paint adds long service life. This equipment simplifies the problems of materials handling in a wide variety of applications and produces substantial savings in materials handling costs.



**TRI-STATE PALLETS**

Strong, lightweight, fire-resistant, and self-cleaning, Tri-State Pallets offer the further advantage of eight-way accessibility. Their unusual base design permits fork entry at corners, as well as at sides, and ends. Trucks can place them in exactly the position desired or pick them up from any position even in congested areas.



**TRI-STATE  
CONVEYOR GUARD**

Follows your conveyor line exactly, along rises or dips, and around corners. Engineered in sections for easy installation—which is made still easier by the light weight of the wire construction. Available in various mesh sizes, according to the material conveyed. Just send us a blue print of your overhead conveyor line, and we will be glad to give full details.

Write for our  
**NEW CATALOG**



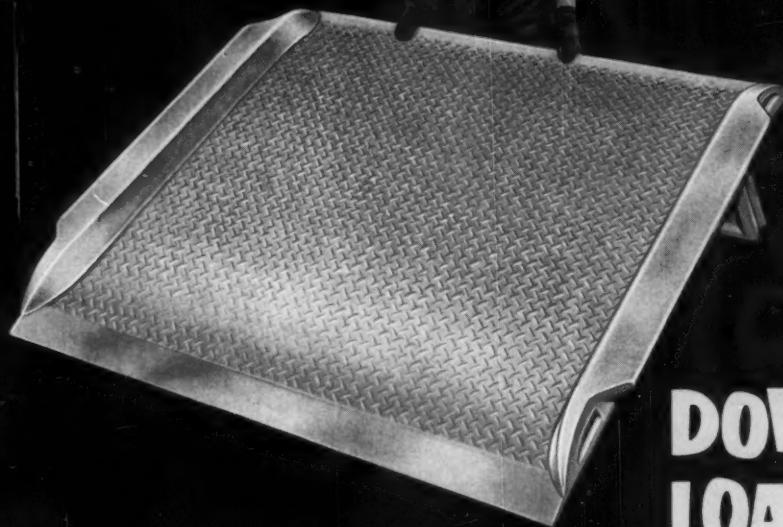
305 W. Beau Street  
Washington, Pennsylvania

Circle No. 132 On Reader Service Card For More Information

DECEMBER, 1957

19

# Down goes a Magliner



## DOWN GO LOADING COSTS!

And they'll stay down with Magliner magnesium dock boards on the job! Magliners speed loading, eliminate dock congestion . . . get extra work from power trucks and other loading equipment. Costs go down and stay down because Magliners are magnesium light—easy to put down . . . easy to move. No heavy lifting . . . no injury hazards. Mens, loads and equipment move *fast, sure, safe*—protected against accidents and costly damage.

Magliners are magnesium-strong too, for rugged dependable service . . . safely handle loads up to 20,000 lbs. and more. Magliners are low in initial cost, provide long-life service, require less maintenance. Economy and cost savings right down the line!

Put all these advantages to work for you . . . put Magliners to work on your dock!

**Magliner**  
MAGNESIUM  
DOCK BOARDS

Canadian Factory:  
Magline of Canada, Ltd., Renfrew, Ontario

Circle No. 85 on Reader Service Card for more information

*Please send me my copy of "How to Cut Dock Loading Costs."*

Check here  
for information on:

- {  Movable Dock Boards  
 Permanent-Type Dock Boards  
 Mobile Loading Ramp  
 Delivery Truck Ramp

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

**MAGLINE INC., BOX 112 PINCONNING, MICHIGAN**

## Do You Have Any of These Dock Problems?



**EQUIPMENT UNDER CLEARANCE PROBLEMS?** —or extreme dock-to-carrier height differences. Magliner board and ramp combination solves high truck-low dock problem. Longer slope for safer loading. Prevents hang-up of low underclearance equipment. Dock board can be used independently of ramp.



**NARROW CONGESTED DOCK?** This narrow rail dock required a flared Magliner dock board, allowing power trucks to make sharp, right angle turns.



**GROUND LEVEL LOADING?** Check into a Magliner mobile loading ramp—a loading dock on wheels... where you want it... when you want it. One man moves it.

**OUTLYING YARD CARS?** No problem to load or unload directly from dock with Magliner car-to-car dock boards. Eliminates car-spotting and demurrage costs.

**PLANNING A NEW PLANT?** Install Magliner Perma-Docks—the permanent magnesium dock board system. Low initial cost... economical installation... maintenance-free operation. Built-in dock loading efficiency—plus more usable dock space.

For more information

MAIL COUPON OR USE  
READER SERVICE NO.

## IEWS AND TRENDS

### Reverse Pressure On The Way?

**T**HERE ARE DIE-HARDS, good men whose opinions on most matters we highly respect, who still hold that material handling and packaging are functions as related as 47th cousins.

To those friends we sincerely recommend a re-reading of November FLOW. They may be persuaded to the conclusion we reached after our review. It was that, in the distribution phases of industry, handling and packaging have been married. There is complete integration. Engineers who work on methods and systems for use in distribution make no distinction between what's handling and what's packaging. They think and design for single-purpose functions.

It seems to us that even the staunchest supporters of a division can see this relationship gaining impetus in two directions—toward the production line and toward the merchandising outlet.

At least two conditions have made major contributions to this marriage—the trend to large bulk containers and the development of non-rigid containers and collapsible dunnage. A third source giving more and more support to it is air freight.

You will find on page 84 of this issue, for instance, a gigantic, new cargo plane, an Air Force-Douglas Aircraft development, that incorporates a rapid loading and tie-down system for standardized shipping units. With cubic capacity of five average boxcars, this looks like equipment for commercial air freight when need for such capacity demands it.

That volumes of this order are not far off is the belief of Boeing Airplane Co. Anticipating a boom in air freight, this company is up to its wing tips in research on packaging and bulk containerization to work with air shipping. Stanley H. Brewer, Professor of Transportation at the University of Washington, has forecast in a report to Boeing that a 670 percent gain in U. S. air cargo movements will be made by 1965.

Brewer's study observes that there is yet to be developed a "Properly designed commercial cargo-carrying airplane... that very little, too, has been done... to engineer better and faster loading and unloading of air cargo."

Fully aware of these developments—even ahead of them in many respects—are the more progressive truck, rail and ship lines. It is perfectly conceivable that the pressure for more efficient packages and better ways to handle them may reverse its current direction. Instead of originating with the shipper, it may come from the carrier. Tariff inducements could be hard to overlook. And, to take full advantage of them while improving over-all efficiency, packaging-handling considerations will need close attention—all the way to the product design department.

Ed Leighton  
Editor



## and lives a long and useful life

Not only do Roura Self-Dumping Hoppers cut handling and unloading costs of wet or dry, hot or cold bulky materials 50% or more . . . they do it year after year with little maintenance or repair. That's because Roura Self-Dumping Hoppers are engineered to take "hard knocks" . . . extra heavy gauge metal . . . sturdy arc-welded joints . . . perfect balance for smooth and rhythmic operation.

The rugged Roura gives you simple one-man semi-automatic operation. Models to fit any standard fork or platform lift truck. Also available mounted on live skids, or with malleable or rubber tired wheels or casters. Sizes range from  $\frac{1}{2}$  to 2 cubic yards.

## ROURA Self-Dumping HOPPER



WANT MORE DETAILS on how you can save money with Roura? Just clip this coupon . . . attach it to your letterhead . . . sign your name . . . and mail to

**ROURA IRON WORKS, INC.**

1411 Woodland Ave., Detroit 11, Michigan

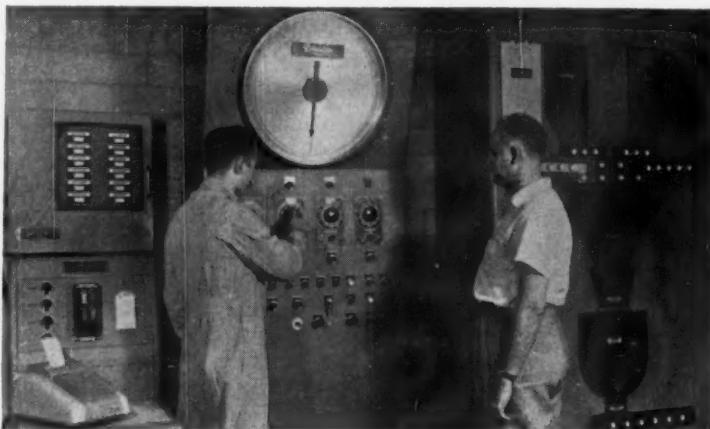
Circle 116 on Reader Service Card

## NEWS AND NOTES

### ● OF PEOPLE AND EVENTS

#### SELECT-O-WEIGH WITH BOSS BOARD AND PUNCHED CARD SYSTEMS EXHIBITED

CLIFTON, N. J.—A glimpse into the future of electronic proportioning is now being offered visitors to Richardson Scale Co. by means of a permanent exhibit of the company's "Select-O-Weigh" system. It has been installed here to operate as an integral unit with either a boss board method of programming or punched card reader (PCR) Control. The new exhibit incorporates a complete electronically controlled system in which simulated bulk materials are handled automatically from supply bins through mixing operations. Operation of the material handling and weighing system is graphically demonstrated by a large

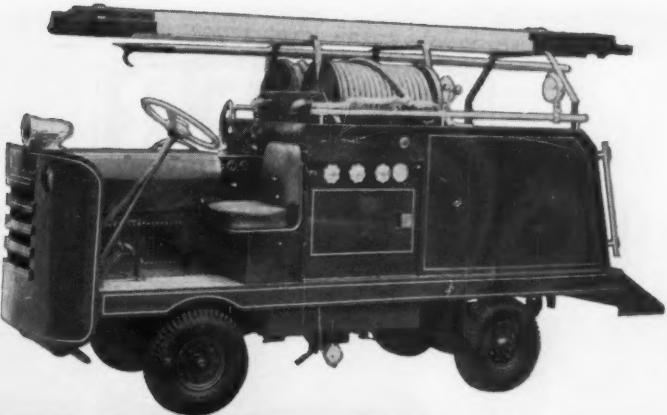


COMPONENT UNITS of the electronic proportioning system (from left to right) are the formulation panel with formula board attached, a tape printer resting on shelf, the Select-O-Weigh control panel with indicator dial, and graphic panel. Counter-totalizer is atop formulation panel.

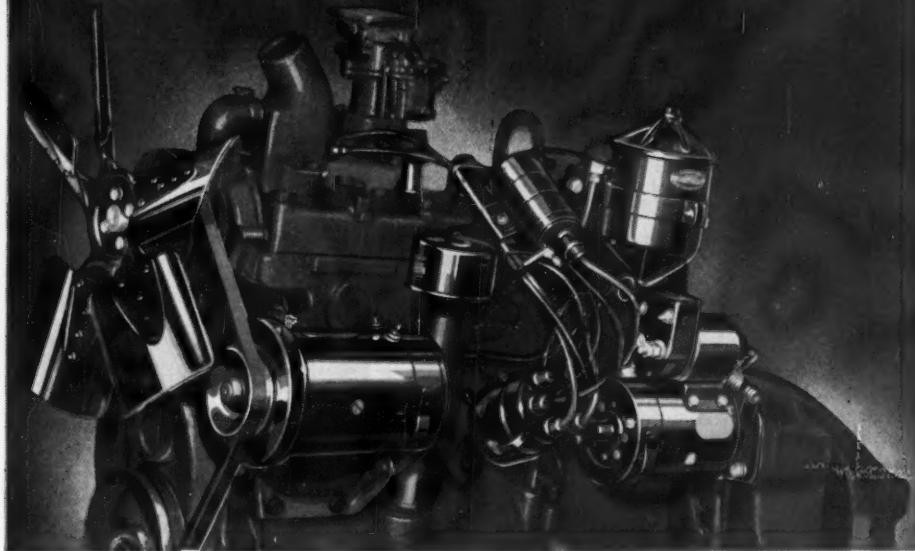
lighted panel showing in color a simplified arrangement of storage bins, feeders, scale, mixer and take-away conveyor. A boss board control provides complete automation for the programming of proportioning and mixing operations. The equipment functions by simply fitting into place a boss board containing formula settings for a multi-batch proportioning operation. Automatic program control is also possible through the punched card method, which makes use of handy punched cards which have been previously coded for prescribed batching formulas. The system automatically goes into operation when a card is inserted and a button pressed. The Select-O-Weigh control panel provides another method of program control. With this type of panel, formulation is controlled by an operator who sets up on the selector dials prescribed weights of ingredients going into a formulated batch. The panel also contains a scale dial. An inventory counter is used for recording weights of each ingredient going into a batch and a totalizer counter for recording the accumulated weight of all batches. Also exhibited is a tape printer that keeps a permanent record of the materials selected and their individual and cumulative weighings in the batching operations.

(Continued on page 24)

# factory fire fighter



THE PAYOFF POWER IS CHRYSLER



The John Bean aisle-sized fire engine fogs out industrial blazes instantly! *Highly maneuverable*, it can speed directly to implant fires taking 90° turns from one 8-foot aisle into another, climbing 16% grades fully loaded. *Highly efficient*, its high pressure fog equipment smothers flames with only 10% of the water required by ordinary systems, and with comparably less water damage. *Completely dependable*, it is powered—both the truck (built by HH Manufacturers) and the pump—by a big-output, low-cost Chrysler Industrial Engine.

#### CHRYSLER INDUSTRIAL 30

in-line 6 Engine (230 cu. in. displacement) powers John Bean Industrial Fire Fighter—and many other makes of equipment in the industrial, construction and materials handling fields. There are four Chrysler in-line 6s, two V-8s—ranging from 230 to 354 cu. inch displacement.

**Chrysler**  
INDUSTRIAL ENGINES

INDUSTRIAL ENGINE DIVISION

• CHRYSLER CORPORATION

Circle No. 29 on Reader Service Card for more information

DECEMBER, 1957

Write Dept. I-12, Industrial Engine Division, Chrysler Corporation, Detroit 31, Michigan, or see your nearest Chrysler Industrial Engine Dealer.

For specific detailed information    For descriptive literature

NAME

ADDRESS

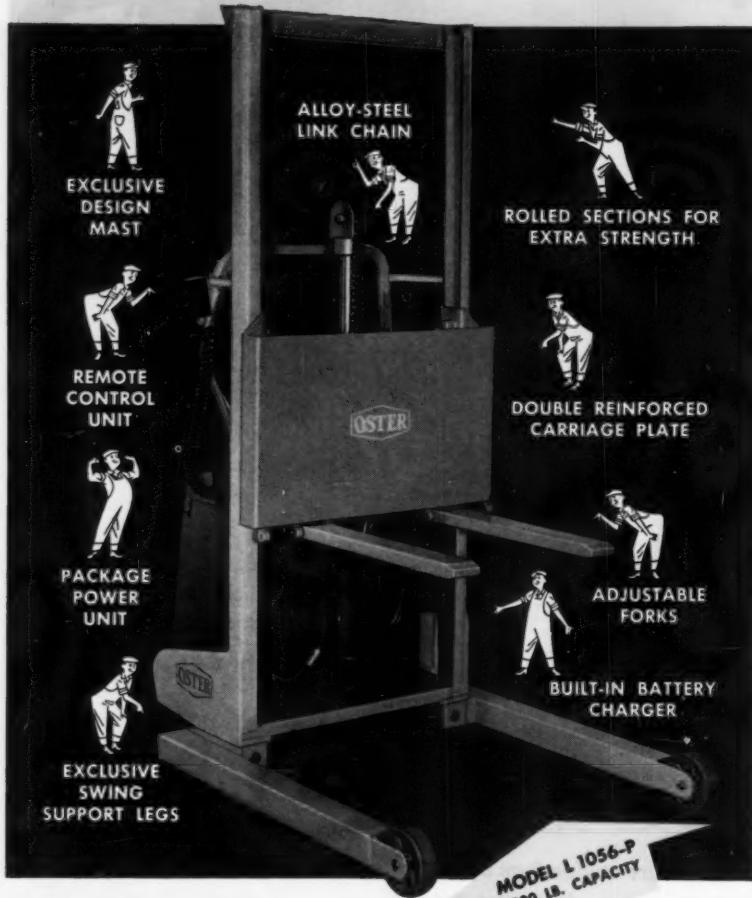
CITY

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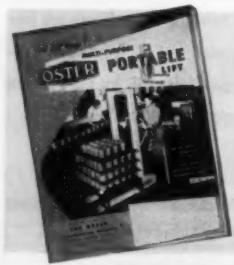
STATE



## OLD NAME...NEW PRODUCT!



## PORTABLE HYDRAULIC LIFT



...available in both hand- and battery-powered models...500- to 2000-pound capacities.

FREE 10-PAGE BOOKLET contains complete information, including specifications and typical application details, on the full line of Oster Portable Hydraulic Lifts. Write for your copy today!

**THE OSTER MANUFACTURING COMPANY**

1338 East 289th Street, Wickliffe (Cleveland), Ohio

BUILDERS OF QUALITY MACHINERY SINCE 1893

Circle No. 103 on Reader Service Card for more information

## NEWS AND NOTES

(Continued)

### FORK TRUCK STARS IN MOVIES

Two Clark Electric trucks were lent to Warner Brothers by Robert H. Braun Co. southern California dealer for Clark Equipment Co., Industrial Truck Div., for use in the movie

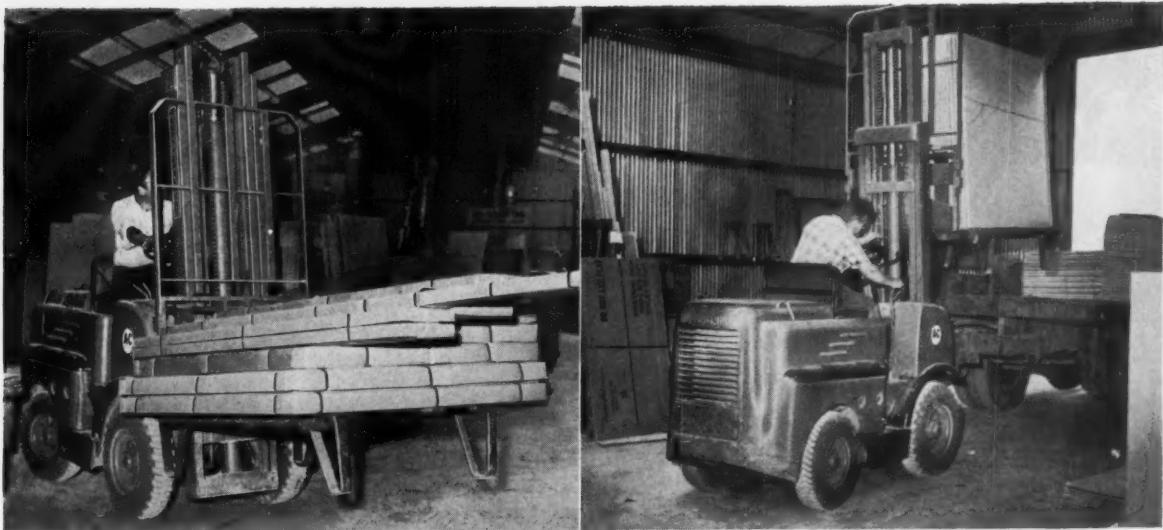


"The Pajama Game". The co-stars of the movie, Doris Day and John Raftt are shown above. The trucks were used in several scenes in the movie to move cartons of pajamas.

### UNITIZED LUMBER SHIPMENTS GAIN

The test program of shipping unitized lumber in box cars being sponsored jointly by the National Retailer Lumber Dealers Association and the National Lumber Manufacturers Association has produced some interesting results in the first month of operation. Sixty-five cars have been ordered or reported upon. Participating retail lumber dealers now number 335. Ninety-seven mills have signified their willingness to ship unitized lumber in cars and 37 wholesale lumber dealers are cooperating.

(Continued on page 26)



Operators in a California metal working plant like the way their Allis-Chalmers 4,000-lb lift truck maneuvers, even in close quarters.

## Operators like them best...drive them best

### ALLIS-CHALMERS FORK TRUCKS



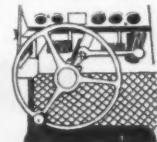
**"Feels like a car with power steering,"** says Arthur B. Wiley, fork truck driver at a Michigan factory. Further, an Allis-Chalmers truck "works fine in narrow aisles. It has no controls on the floor — easy to get on and off of."

Center-point steering gives the same easy responsiveness as a moving auto. Full 18-in. steering wheel completes the familiar "feel."



**"Must have been engineered for the driver,"** says operator Gast at a Wisconsin foundry. "Shifting is handy and I like where the controls are located. Have plenty of room for driving."

Controls are right at the operator's finger tips. Gauges are in plain sight. Floor is clear, seat can be moved ahead or back to suit the operator.



**"I just like the whole machine — everything about it,"** sums up John Cromer, operator at a Missouri plant. "It's a work horse. It handles and operates smoother and performs better than others we have had in the plant."

Outstanding performance starts with the Allis-Chalmers industrial heavy-duty engine. It provides extremely high torque in relation to rated capacity for smooth operation, climbing grades, moving heavy loads.



**Put Yourself in the Driver's Seat** tells more about why operators "like them best . . . drive them best." Send for your free copy of this interesting booklet — and see your Allis-Chalmers material handling dealer.

ALLIS-CHALMERS, MATERIAL HANDLING DEPT., BUDA DIVISION, MILWAUKEE 1, WISCONSIN

# ALLIS-CHALMERS



Circle No. 21 on Reader Service Card for more information

DECEMBER, 1957

# NEWS AND NOTES

*Continued*

## TRUCKER USES COMPUTER

**Great Southern Trucking Co.**, Jacksonville, Fla., the largest common motor carrier operating entirely within the Southeast, will mark its 25th anniversary in 1958 by becoming the first trucking firm in the U.S. to install a **Remington Rand** file-computer—more commonly known as Univac. The electronic brain will tell its new owners what class of freight is moving between a network of 70 terminals in six states and keep tabs on daily movements of Great Southern's 1,925 trucks. It will also figure costs, help determine profit factors in various routes, aid in fixing rate schedules, point up fruitful sales areas,

and furnish statistics on revenue, shipper-consignee matters and tonnage comparisons.

Rapids-Standard Co. where he was engaged in material handling engineering work for more than eight years.

## ITEMS OF LOCAL INTEREST

CHICAGO, ILL.



**Food Machinery and Chemical Corp.** has opened a new application engineering office for its material handling equipment line in Chicago. **Lee DeWent** will handle proposal and application engineering for equipment to be installed east of the Rocky Mountains. DeWent was formerly a Senior Field Engineer with

KALAMAZOO, MICH.

**James K. Heap** has been named Assistant to the Manager of the **Ingersoll Kalamazoo Division of Borg-Warner Corp.** and **Richard J. O'Donnell, Jr.**, has been named direct



sales representative for Load Lagger equipment in the Philadelphia area. Heap attended General Motors Institute in Flint, Mich., and Fenn College in Cleveland. O'Donnell is a graduate of Seton Hall University and was

*(Continued on page 54)*

## *Want Long Battery Life? Then You Want B-G Chargers*

**For Dependability—Efficiency—Economy—600,000 in Service All Over The World.**



Standard stock models for any industrial truck battery

ALL INDUSTRIAL MODELS ARE SIMPLE TO OPERATE AND FULLY AUTOMATIC ON EITHER LEAD OR EDISON BATTERIES.

All models meet N E M A and military specifications

Sold and serviced by all leading truck manufacturers and dealers

**BERG-GIBSON MFG. Co.**

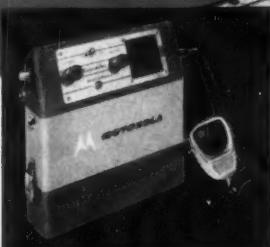
819 EAST 17th ST. • KANSAS CITY 8, Mo.

Authorized Service in Principal Cities

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# the FIRST 2-WAY RADIO

SPECIFICALLY  
DESIGNED  
for  
Materials  
Handling  
equipment



Self-contained model — for use where dashboard space is available.



Separate speaker model, for rear or remote location of chassis, with front-mounting of speaker and microphone.

## The new MOTOROLA DISPATCHER radiophone with TRANSISTORIZED CIRCUITS gives you:

- **Smallest Mobile 2-Way Radio Ever Developed** . . . transistors and printed circuits help engineer radio down to fit conveniently on any vehicle.
- **Lowest Current Drain** . . . down to  $\frac{1}{2}$  the current needed for other mobile radios, as little as 6 ampere-hours for an 8 hour day.
- **Transistorized Power Supplies** . . . designed to operate from 6, 12, 24 volts DC and up, plus 117 volts AC. No converters or battery tapping. Fully transistorized voltage regulation.
- **Highest Speaker Volume** . . . an operator away from his vehicle can hear messages even in noisy areas — every word is sharp and clear.
- **Rugged, Reliable** . . . long-life transistors, printed circuits, rubber cushioned mounting — everything designed to withstand jars, jolts and vibration.

Here's the mobile radio that's truly tailored to speed your materials handling. This rugged radio is easy to mount, requires only a trickle of current, and can be heard in the noisiest areas. No matter what kind of industrial vehicle you have — gasoline, LP gas, diesel or electric powered — there's a Motorola DISPATCHER radio for you. Models for electric vehicles feature transistorized voltage regulation to guard against varying voltages. Now your materials handling supervisor can have full control as he "rides with the driver" of each vehicle. Get all the information and you'll see why an investment in radio soon pays for itself in the time it saves.



WRITE FOR FOLDER  
GIVING FULL DESCRIPTIONS



**MOTOROLA**  
INDUSTRIAL

TRANSISTORIZED  
**dispatcher**  
RADIOPHONE

MOTOROLA Communications & Electronics, Inc. • 4501 Augusta Blvd., Chicago 51, Illinois • A Subsidiary of Motorola, Inc.

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DECEMBER, 1957

27

Circle No. 54 on Reader Service Card for more information



on loading docks  
or ground level

THE COMPLETELY  
A-U-T-O-M-A-T-I-C  
LOADING PLATFORM

*that delivers the  
goods faster*



20 SECOND  
LOADING SERVICE

UP  
or  
DOWN



SAVES YOU MONEY

*every second* HYDRAULIC  
MECHANISM COMPLETELY SEALED  
FOREVER — standard, ready-  
to-install self leveling units.

Write for  
"LOAD-O-MATIC" Bulletin



FIELD ENGINEERING PRODUCTS CO., Jamestown, N.Y.

SPECIALISTS IN HYDRAULIC LOADING LIFTS

## Neff & Fry Silo used for calcined coke

Many of our silos are currently being erected for handling and storing calcined coke. Scores of them have been in use for the same purpose over the years. The photograph shows one such installation in Pennsylvania. It is 24 ft. dia. x 60 ft. high.

There are a number of special problems in designing systems for handling calcined coke and other materials of similar consistency. Our knowledge of the subject can be of great practical value. We'll be glad to communicate or confer with you.

Our silos are constructed of Super-Concrete Staves with diagonal ends which permit steel hoops to impinge directly upon the horizontal joints. As many intervening hoops are installed as needed to meet the lateral thrust of the contents. This is clearly explained in our folder, "Bins With the Strength of Pillars." A copy is yours for the asking.

*Not exported except to Canada  
and Mexico.*

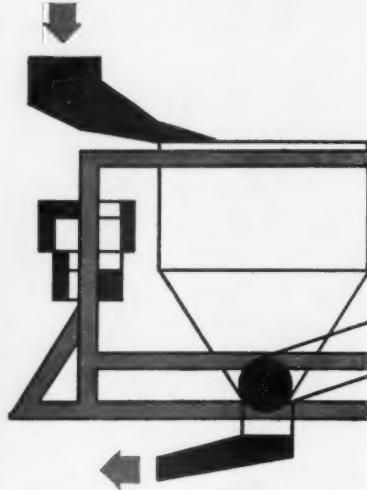
**THE NEFF & FRY CO.**  
**110 ELM ST., CAMDEN, OHIO**

Circle No. 97 on Reader Service Card for more information



UNITIZED  
WEIGHING

**provides automatic  
batching**

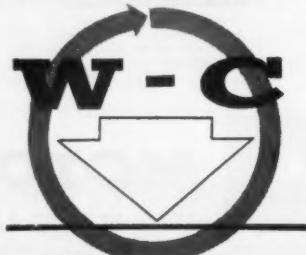


For sequence or continuous automatic batch feeding, W-C offers pre-engineered, "building-block" systems to meet virtually all requirements.

- Batch-in or batch-out
- Solids and liquids
- Single or multiple materials
- Ratio batch and proportioning

In a full range of sizes, you have your choice of weigh hoppers, feeders, weight transmitters, scales . . . semi-automatic or fully automatic controls, either "on-the-spot" or remotely located. You also have your choice of electric or pneumatic operation plus the overall flexibility and economy that only W-C UNITIZED WEIGHING Systems offer in fulfilling present and future weight batching requirements.

Write for descriptive literature.



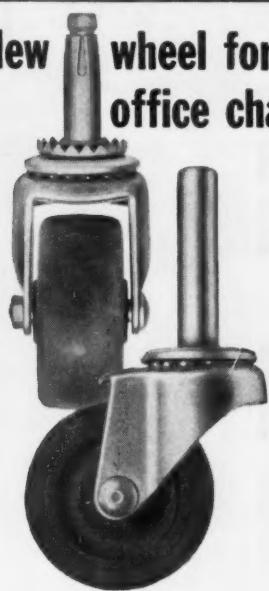
WEIGHING & CONTROL COMPONENTS, Inc.

206-B LINCOLN AVENUE, HATBORO, PA.  
Circle 142 on Reader Service Card  
FLOW

# MATERIALS-HANDLING NEWS

NEW AND UNUSUAL APPLICATIONS OF BASSICK CASTERS THAT MIGHT BE ADAPTED TO YOUR HANDLING PROBLEMS

## New wheel for office chairs



Sometimes a man will get so interested in plant efficiency he forgets office efficiency. Take a look around your place and see if new casters wouldn't help ease work, save floors and keep quiet. Along these lines, Bassick's 2" chair casters have a new wider rubber wheel that stands up 50% longer and gives you greater floor protection. Remember the office as well as the plant next time you need casters.



## TV on casters

You've probably seen the receiving end of TV on Bassick casters many times, but here at WISH-TV in Indianapolis, they've also got the sending end of TV on our smooth-rolling, easy-swiveling casters. This TV dolly is one more fine product that's going places on Bassick casters. Look for Bassick as a sign of quality on all mobile equipment.

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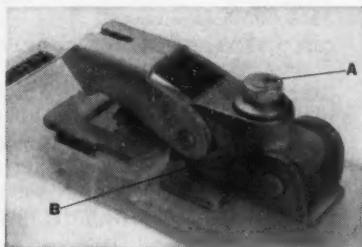


## Oil company's shipping goes smoothly with shock absorbing casters

At Socony Mobile Oil Company's Paulsboro Refinery, big oil drums and cases of small cans of oil have to be moved from factory to warehouse to shipside.

Shock absorbing Bassick "Floating Hub" casters have helped to solve this materials-handling problem. Tractor-pulled trailer trains equipped with 10" single and double wheel "Floating Hubs" carry the drums and cartons to the ship-loading dock.

There are many advantages to equipping power-pulled trucks with these shock absorbing casters in any plant. They'll stand up to rough service over rough floors and roadways. They protect the loads carried, keep them stable and prevent parcels from falling off trains. They cut down on noise, they track well, and they hold maintenance to a minimum. Ask your distributor about Bassick "Floating Hub" casters.



## New Bassick Gear Lock Clamp

Here's a revolutionary new clamp with a 2000-lb closure strength capable of providing an airtight seal in heavy duty containers. When locking nut (A) is tightened its worm gear mechanism turns gear (B) and closes clamp. This simple gear design

provides an infinite number of closing positions, adjusts itself to varied tolerances, needs no special precision mounting. Saves labor in mounting, opening, closing.

## Talk to your local distributor

Your Bassick distributor salesman can keep you up to date on new products and new ideas in materials-handling. Dealing with him also saves you time since you can fill many of your plant requirements from a single source. THE BASSICK COMPANY, Bridgeport 5, Conn.

In Canada: Belleville, Ont. 7-4383

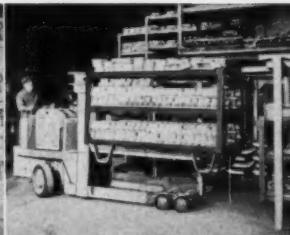
see our catalog in  
Sweet's  
or write for info



**Bassick**  
SYMBOL OF EXCELLENCE  
MAKING CASTERS DO MORE  
BASSICK  
SWARZ  
WHEELS



FOOD



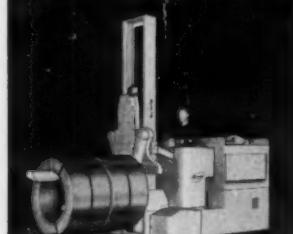
FOUNDRY



BUILDING MATERIALS



MACHINERY



STEEL



WHAT'S  
YOUR  
? LINE



GLASS



RAILROAD



PETROLEUM



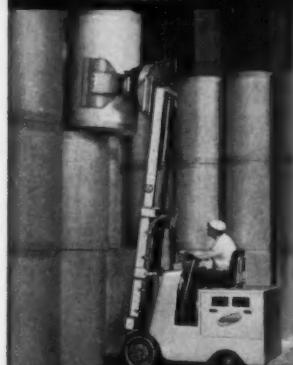
AUTOMOTIVE



CHEMICALS



RUBBER



PRINTING



WAREHOUSING

## ELPAR<sup>®</sup> TRUCKS

*can cut your costs*

Here are typical savings with ELPAR trucks:

**GROCERY CHAIN** . . . ELPAR truck unloads boxcars 60% faster.

**PIPE MANUFACTURER** . . . 2 ELPAR trucks work more than 280 hours a week, yet—during 63 months' combined use—upkeep averages only \$3.36 per truck-month.

**STEEL MILL** . . . ELPAR unit does job that once tied up a \$200,000 bridge crane.

**COLD STORAGE PLANT** . . . ELPAR trucks cut man-hour costs 75%.

**AIRCRAFT PRODUCTS MANUFACTURER** . . . each of 16 ten-year-old trucks averages only one hour per month maintenance.

**PRINTER** . . . ELPAR roll truck cuts man-hour costs 79%.

**RAILROAD REPAIR SHOP** . . . ELPAR-engineered crane eliminates need for \$80,000 yard improvement program.

**FOUNDRY** . . . 36-year-old ELPAR truck still puts in a full day's work.

There are ELPAR trucks specifically suited to *your* industry. Get the facts—write for General Catalog and Case Histories about your "line."



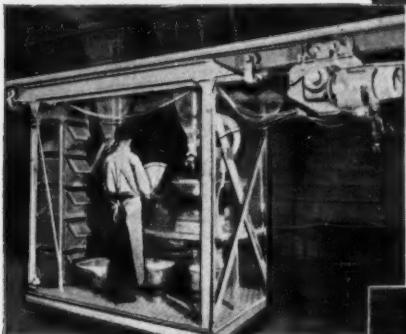
THE ELWELL-PARKER ELECTRIC COMPANY

4291 ST. CLAIR AVENUE • CLEVELAND 3, OHIO

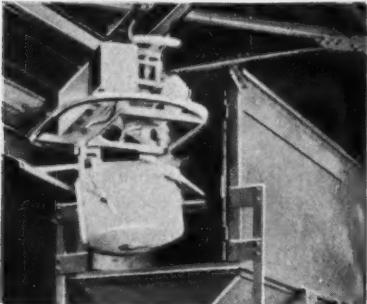
Circle No. 51 on Reader Service Card for more information

# Automation in Action!

## Louden Selectomatic Dispatch



2 A Mixing Operator rides a Louden Weighing Lorry selecting the grades of grits according to type of grinding wheel to be manufactured. Similarly, the various grades of bonding agents are selected.



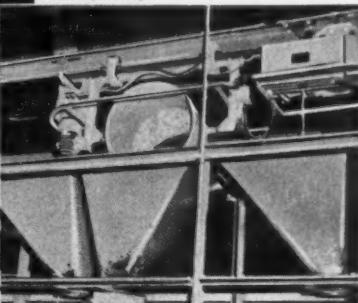
4 After automatically dumping, the carrier proceeds to the cleaning station; opens and shuts doors, starts and stops an air cleaning jet which thoroughly cleans the bucket.



Material Handling", a 52-page book full of how-to-do-it ideas. If you are interested in automation, ask for the new book on Louden Automatic Dispatch, "Automatic Materials Handling". With either you will receive the latest information on Louden Shok-Pruf Electrification, new safety in power for cranes and monorail systems.



1 A Mixing Operator loads a carrier after electrically calling it on the control panel. After loading, he will select on the panel the carrier's destination and start its automatic journey.



3 Completely unattended, the Louden Selectomatic Carrier stops at a designated press hopper and dumps the mix.

Automation always brings its greatest gains by the waste it eliminates in handling. It saves time and it saves labor; uses men for their brains rather than their brawn, makes materials handling an aid to their skills rather than an unpleasant handicap. This is the way Louden automatic materials handling serves the world's most modern bonded abrasives plant of the Carborundum Company that was completed recently in Logan, Ohio.

This new Carborundum plant was designed to gain the benefits of automation with a Louden Selectomatic Dispatch System. Materials storage is on the third floor, materials mixing is on the second

floor, molding of the mixed materials is on the first floor, with interfloor transfer of materials by gravity. The Louden equipment operates in the mixing and molding departments.

Mixing operators on Louden Weighing Lorries move from spout to spout drawing grits and bonding materials from the storage above and mix these according to formulae for the grinding wheels to be manufactured. Each mix is placed in a hopper at a loading station. Then, when a press on the floor below is ready for a mix, the touch of a Louden Selectomatic control button automatically brings an empty carrier into position under the proper loading station, directs the carrier to the hopper of the proper press, dumps the mix, sends the carrier to an automatic cleaning station, and then returns it to the "empty" line to await another call. Six such Louden Selectomatic Carriers operate over more than 1,700 feet of Louden Monorail to serve the many presses in this molding department.

When you are planning new production facilities or the extension or modernization of your present facilities, discuss your plans or problems with Louden engineers. No company in materials handling engineering has the years of experience, the array of equipment or the record of accomplishment Louden can demonstrate. Write or wire today.

# Louden

MONORAIL & CRANES

SINCE 1867 . . . THE FIRST NAME IN MATERIALS HANDLING

Circle No. 82 on Reader Service Card for more information

DECEMBER, 1957

THE LOUDEN MACHINERY COMPANY  
7312 Broadway, Fairfield, Iowa  
A Subsidiary of Mechanical Handling Systems Inc.



# CATALOGS

offered in

**Heavy Duty Steel Wire Containers . . .** These containers are used for handling, storing and shipping a wide range of industrial parts, components and finished products. They fold compactly for storage or transportation. All models stack easily and firmly. Further information is available from Tri-State Engineering Co.

Circle 132 on Reader Service Card

**Table-Top Conveyor . . .** Extensions can be added for over-all length of 81 feet. Available with or without side leaves. Rigid, enameled steel frame with durable 3-ply belt in widths from 6 to 24 inches. Complete information is available from The Belt Corp.

Circle 16 on Reader Service Card

**Truck With the Boarding House Reach . . .** is the way The Raymond Corp. refer to their Reach-Fork which enables you to install six foot aisles in your warehouse right now. The Reach-Fork operates from the aisle. It doesn't straddle the bottom pallet like other narrow-aisle tiering trucks. Its forks reach right into the storage rack to pick up or deposit your load. Forks reach out a full 24" and back in seconds. The Reach-Fork can be used on low-capacity elevators and floors due to its light weight. Ideal for loading trucks and boxcars, too. A bulletin on the Reach-Fork is offered you by The Raymond Corp.

Circle 111 on Reader Service Card

**For Shipping Odd-Shaped Parts . . .** Flexible Green Core Super Cloth Rap conforms to the shape of your product. It's water-

proofed, greaseproofed and self-sealing. Lock seam joints are as greaseproof as the material itself. Samples and complete data are available from Mid-States Gummed Paper Co.

Circle 91 on Reader Service Card

**Hydraulic-Powered Sealer-Stretcher Combination . . .** Faster, more efficient strapping operation is now available with the new USS Gerrard Model 56-57 sealer-stretcher combination. Push-button operation of tension and return stroke. Automatic, predetermined tension control guarantees same tension on every package. Sealer head is easily positioned and push-button-operated. Full information is contained in the 36-page Gerrard Blue Book of Packaging available from Gerrard Steel Strapping Div., U. S. Steel Corp.

Circle 60 on Reader Service Card

**Crane Accessories and Handling Device . . .** Sheet and angle lifting clamps, drum lifters, drum lifters, hand grips for sheet steel and drum openers are just some of the items discussed in literature available from Merrill Brothers.

Circle 90 on Reader Service Card

**Shock Absorbing Casters . . .** Bassick "Flating Hub" casters are said to stand up to rough service over rough floors and roadways. They protect the loads carried, keep them stable and prevent parcels from falling off trains. They cut down on noise, they track well, and hold maintenance to a minimum. Further information is available from The Bassick Co.

Circle 14 on Reader Service Card

**Now You Can Empty Heavy Containers . . .** faster, easier and safer with Tubar Hydraulic Dumpers. Available with lifting capacities to 2000 pounds. Designed to dump barrels, kegs, and drums and easily adapted to handling skids, pallets, box trucks, and other bulky units. Sliding lock clamps hold the container safely in position. A descriptive brochure is yours for the asking from Uhrden, Inc.

Circle 134 on Reader Service Card

**Lightweight Aluminum Trucks . . .** Met-L-Ite Aluminum Trucks are engineered with your requirements in mind—including one-piece formed deck for minimum weight and maximum strength. Further information is available from Met-L-Ite Products Div., Voltz Brothers, Inc.

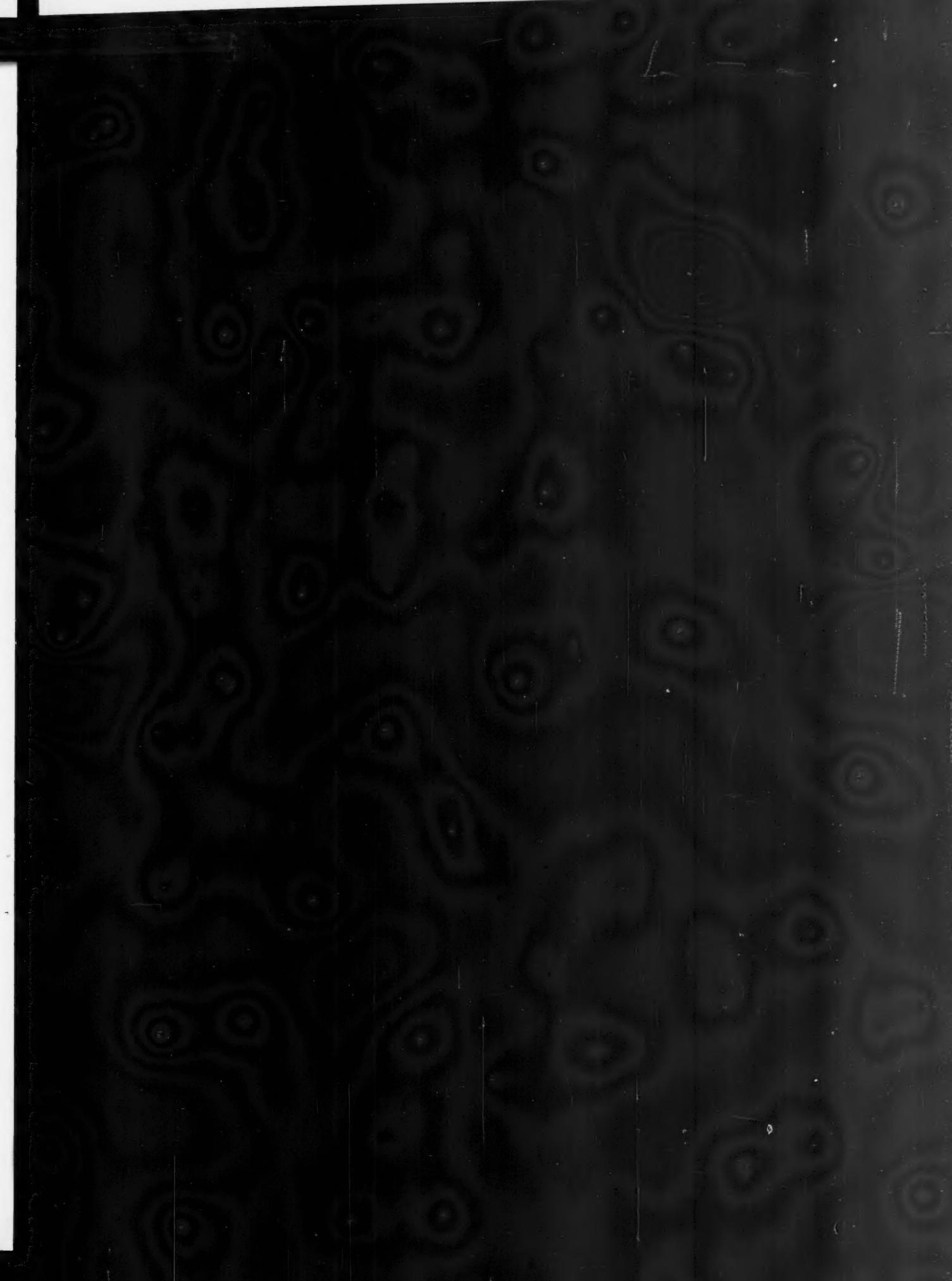
Circle 139 on Reader Service Card

**Floor Crane Converts to Truck Crane . . .** This quarter-ton truck crane can be moved to a truck body by removing four bolts from the well. The entire truck crane assembly weighs only 100 pounds. Further information is available from Ruger Equipment, Inc.

Circle 117 on Reader Service Card

**Recharge Truck Batteries Anywhere in the Plant . . .** with the K-W complete power unit system. Needs no special charging equipment, has no moving parts. Cost and down time for battery maintenance is low and it prolongs battery life. Uses any 110-120 volt, 50/60 cycle AC circuit. Full information is available from K-W Battery Co.

Circle 75 on Reader Service Card



# and BULLETINS

## advertisements in this publication

**How to Cut Dock Loading Costs . . .** is the title of a booklet, available from Magline Inc., which contains information on movable dock boards, permanent-type dock boards, mobile loading ramps and delivery truck ramps. It's yours simply for the asking.

Circle 85 on Reader Service Card

**Eliminate Creeping Rust . . .** under the enamel of your steel equipment—shelving, lockers or cabinets. Each sheet of steel used in Penco equipment is given a phosphate base to provide protection against the spread of rust and eliminate premature aging of equipment. Further information is available from Penco Metal Products Div., Alan Wood Steel Co.

Circle 106 on Reader Service Card

**Print Shipping Information Direct . . .** on cartons, boxes and packages. To eliminate the double operation of preparing labels and then pasting them to the containers. A thousand or more impressions are available from one stencil without re-inking. A free sample form-cut stencil and print, together with complete information about the hand-stamp process, is yours for the asking from The Multistamp Co.

Circle 96 on Reader Service Card

**Eliminate Gas Fumes . . .** OCM Catalytic Exhausts are said to eliminate 95% or more of carbon monoxide and 90% of harmful, irritating hydrocarbons and other engine exhaust fumes and odors from any type of equipment burning gasoline or LP-Gas. It also eliminates fume-caused headaches, grogginess, eye irri-

tation and nausea to workers. Complete information is available from Oxy-Catalyst, Inc.

Circle 104 on Reader Service Card

**Solid Rubber Tires . . .** with E-Z rolling tread are discussed in a folder offered by Phoenix Mfg. Co. Special treads such as hard rubber, static conducting and oil resisting are also available.

Circle 107 on Reader Service Card

**Wirebound Pallet Boxes . . .** which are strong, lightweight and re-usable are discussed in literature available from Rathborne, Hair & Ridgeway Box Co.

Circle 110 on Reader Service Card

**Aluminum Conveyor . . .** The high reflectivity of aluminum is said to make the Model G the ideal conveyor for use with radiant ovens for drying and heat treating operations. They may be easily washed with steam or hot water and they are acid and rust resistant. Further information is available from the Conveyor Div., Mercury Industries, Inc.

Circle 89 on Reader Service Card

**Vertical Storage and Handling . . .** The Trak-Rack system is composed of a bridge crane with an overhead trolley, from which is suspended an electrically operated rotating column equipped with a special fork lift. All operations of the fork lift, which revolves to serve either side of the aisles, moves toward or away from the racks, and raises or lowers on the column, are controlled by the operator who rides with the carriage. A safety interlock switch

system prevents the column from running into a rack and permits full rotation only when the unit is safely beyond the end of the racks. Further information is available from The Chicago Tramrail Corp.

Circle 28 on Reader Service Card

**Fill and Seal 240 Packages a Minute . . .** with the Robo-Wrap machine, one operator can form and seal 60, 120 or 240 pillow-packages a minute. The exclusive hand-over-hand action does the job faster than any other machine. Package sizes can be changed quickly. A booklet giving full information on low maintenance and simple integration with existing equipment is yours for the asking from Lynch Robo Corp., A Division of Lynch Corp.

Circle 83 on Reader Service Card

**Casters and Wheels . . .** These casters and wheels are rust-proofed by zinc plating. All swivel and wheel bearings are factory packed with a high quality grease and Zerk fittings are provided for quick grease-gun lubrication. Also, string guards assure easy rolling at all times. Further information is available from Darnell Corp., Ltd.

Circle 39 on Reader Service Card

**Now You Can Handle . . .** heavy rolls of paper, drums or barrels easily with the Ironbound Rol Truck manufactured by the Ironbound Box & Lumber Co. The Rol Truk, together with information on their skids, dollies, and hand trucks, is described in literature available from the company.

Circle 70 on Reader Service Card

Use This

## READER SERVICE CARD

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New Equipment & Supplies ..... Starting on Page 133

Useful Literature ..... Starting on Page 101

PLEASE PRINT

December 1957. Do not use after 3-15-58

Name ..... Position .....

Company ..... Kind of Business .....

Street .....

City ..... Zone ..... State .....

PLEASE	SEND	ME	ADDITIONAL	INFORMATION	AND	LITERATURE	ON	ITEMS	CIRCLED	BELOW.
1	26	51	76	101	126	151	176	201	226	251
2	27	52	77	102	127	152	177	202	227	252
3	28	53	78	103	128	153	178	203	228	253
4	29	54	79	104	129	154	179	204	229	254
5	30	55	80	105	130	155	180	205	230	255
6	31	56	81	106	131	156	181	206	231	256
7	32	57	82	107	132	157	182	207	232	257
8	33	58	83	108	133	158	183	208	233	258
9	34	59	84	109	134	159	184	209	234	259
10	35	60	85	110	135	160	185	210	235	260
11	36	61	86	111	136	161	186	211	236	261
12	37	62	87	112	137	162	187	212	237	262
13	38	63	88	113	138	163	188	213	238	263
14	39	64	89	114	139	164	189	214	239	264
15	40	65	90	115	140	165	190	215	240	265
16	41	66	91	116	141	166	191	216	241	266
17	42	67	92	117	142	167	192	217	242	267
18	43	68	93	118	143	168	193	218	243	268
19	44	69	94	119	144	169	194	219	244	269
20	45	70	95	120	145	170	195	220	245	270
21	46	71	96	121	146	171	196	221	246	271
22	47	72	97	122	147	172	197	222	247	272
23	48	73	98	123	148	173	198	223	248	273
24	49	74	99	124	149	174	199	224	249	274
25	50	75	100	125	150	175	200	225	250	275
								300	325	350
									375	400
									425	450
									475	500

FIRST CLASS  
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CLEVELAND, OHIO

BUSINESS REPLY CARD  
NO POSTAGE STAMP NECESSARY IF MAILED IN THE UNITED STATES

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# FLOW

812 HURON RD.

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CLEVELAND 15, OHIO

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CLEVELAND 15, OHIO

PLEASE PRINT

December 1957. Do not use after 3-15-58

Name ..... Position .....

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PLEASE SEND ME ADDITIONAL INFORMATION AND LITERATURE ON ITEMS CIRCLED BELOW.

1	26	51	76	101	126	151	176	201	226	251	276	301	326	351	376	401	426	451	476
2	27	52	77	102	127	152	177	202	227	252	277	302	327	352	377	402	427	452	477
3	28	53	78	103	128	153	178	203	228	253	278	303	328	353	378	403	428	453	478
4	29	54	79	104	129	154	179	204	229	254	279	304	329	354	379	404	429	454	479
5	30	55	80	105	130	155	180	205	230	255	280	305	330	355	380	405	430	455	480
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7	32	57	82	107	132	157	182	207	232	257	282	307	332	357	382	407	432	457	482
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11	36	61	86	111	136	161	186	211	236	261	286	311	336	361	386	411	436	461	486
12	37	62	87	112	137	162	187	212	237	262	287	312	337	362	387	412	437	462	487
13	38	63	88	113	138	163	188	213	238	263	288	313	338	363	388	413	438	463	488
14	39	64	89	114	139	164	189	214	239	264	289	314	339	364	389	414	439	464	489
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23	48	73	98	123	148	173	198	223	248	273	298	323	348	373	398	423	448	473	498
24	49	74	99	124	149	174	199	224	249	274	299	324	349	374	399	424	449	474	499
25	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400	425	450	475	500

**Heavy-Duty Tractor**  
Designed to safely and  
easily haul hot metal, iron  
plate, coils, bar stock  
and other products in  
plant handling. Built  
with handling capacities  
up to 250,000 lbs. They feature  
front and rear axle fifth  
wheels, better steering, articulating  
synchronized steering, large  
wheel bearings, solid  
tires, and 4, 8 or 16-wheel  
drive. Further information  
from Salem-Brosius, Inc.  
Circle 118 on Reader Service Card

**Engine Hour Meter**  
permit you to keep  
check so you'll know  
when to change oil, oil  
filter, other maintenance  
due. This is not a  
counter, but a true electronic  
instrument recording  
minutes. Ruggedly  
simple to install. Function  
is available from  
Hobbs Corp.  
Circle 68 on Reader Service Card

**Tire and Wheel**  
... It is claimed that  
you can save up to 50% on  
costs, and up to 20% on  
maintenance costs with a  
rich tire and wheel  
your material handling  
It is available to you  
obligation from the  
Rich Tire Co.

Circle 63 on Reader Service Card

**Completely Automatic**  
Loading Platform  
hydraulic mechanism  
completely sealed forward,  
ready-to-install  
units. The "Load-O-Matic"  
offered by Field Products  
Co. gives complete information.

Circle 54 on Reader Service Card

*Continued*

**Light-Duty Trailers . . .** to safely and economically haul metal, ingots, slabs, rods, bar stock, pipe, scrap and products requiring handling. Built in load capacities from 6000 to 10,000 lbs. They feature front or rear axle fifth wheels for steering, articulated axles, mechanized steering, Timken bearings, solid or pneumatic tires, 4, 8 or 16-wheel models. Information is available from Sem-Brosius, Inc.

Circle 3 on Reader Service Card

**Electric Hour Meters . . .** help you to keep on accurate record of when lubricant oil change, overhaul and maintenance functions are due. This is not a revolution but a true electric timing device recording hours and minutes. Ruggedly built and easy to install. Full information available from John W. Corp.

Circle 30 on Reader Service Card

**Tire and Wheel Analysis** is claimed that you can save up to 50% on industrial tire costs and up to 20% on maintenance costs with a B. F. Goodrich tire and wheel analysis of material handling operations. Available to you without cost from the B. F. Goodrich Co.

Circle 50 on Reader Service Card

**Completely Automatic Platform . . .** has a mechanism which is completely sealed forever. Standardly-to-install self-leveling type "Load-O-Matic" bulletin by Field Engineering Co. gives complete information.

Circle 45 on Reader Service Card

**Lessens Shock . . .** The new Greer Damper is claimed to eliminate shock which could damage cylinders, hose, packings and cause structural strain. Parts are said to last longer and perform better. Downtime, maintenance and operating costs are also said to be reduced. Full information is contained in Greer Bulletin 1100 offered by Greer Hydraulics, Inc.

Circle 66 on Reader Service Card

**Wire Rope Slings . . .** are low in cost, yet a single failure can cause thousands of dollars in damage and endanger everyone on the job site. Complete details about safe, dependable Wickwire Wire Rope Slings is yours for the asking from Wickwire Spencer Steel Div., The Colorado Fuel and Iron Corp.

Circle 32 on Reader Service Card

**Case Histories . . .** describing the use of Elwell-Parker trucks in various types of industries and how savings were effected through their use are contained in a catalog available from The Elwell-Parker Electric Co. Among the industries dealt with are the food, building materials, machinery, railroad, rubber, chemicals, printing and warehousing.

Circle 51 on Reader Service Card

**Fir Plywood for Exterior Use . . .** is bonded with waterproof glue for permanent exposure to water or weather. Moisture-resistant glue is used on interior type plywood for use in crating, sheathing and maintenance. In both the exterior and interior types there are several grades—panels with one good side, two good sides, etc. The full story is contained in literature available from Douglas Fir Plywood Association.

Circle 46 on Reader Service Card

**Air Hoist . . .** Gentle starting and accurate stopping, while handling loads from 50 to 4000 pounds, can be accomplished with a Keller Tool air hoist. The hoists are powered by axial piston air motors that can't burn out, the manufacturer claims. They are easy to move and install. All sizes furnished with roller or link chain except the 150-pound model which is equipped with a wire cable. Further information is contained in Bulletin 86 of Keller Tool Div., Gardner-Denver Co.

Circle 57 on Reader Service Card

**Dock Covers . . .** completely enclose the space between car and building doorways, protecting loading and unloading during inclement weather. Prevent accidents and insure against loss of heat or refrigeration. Full details are available from CAPCO.

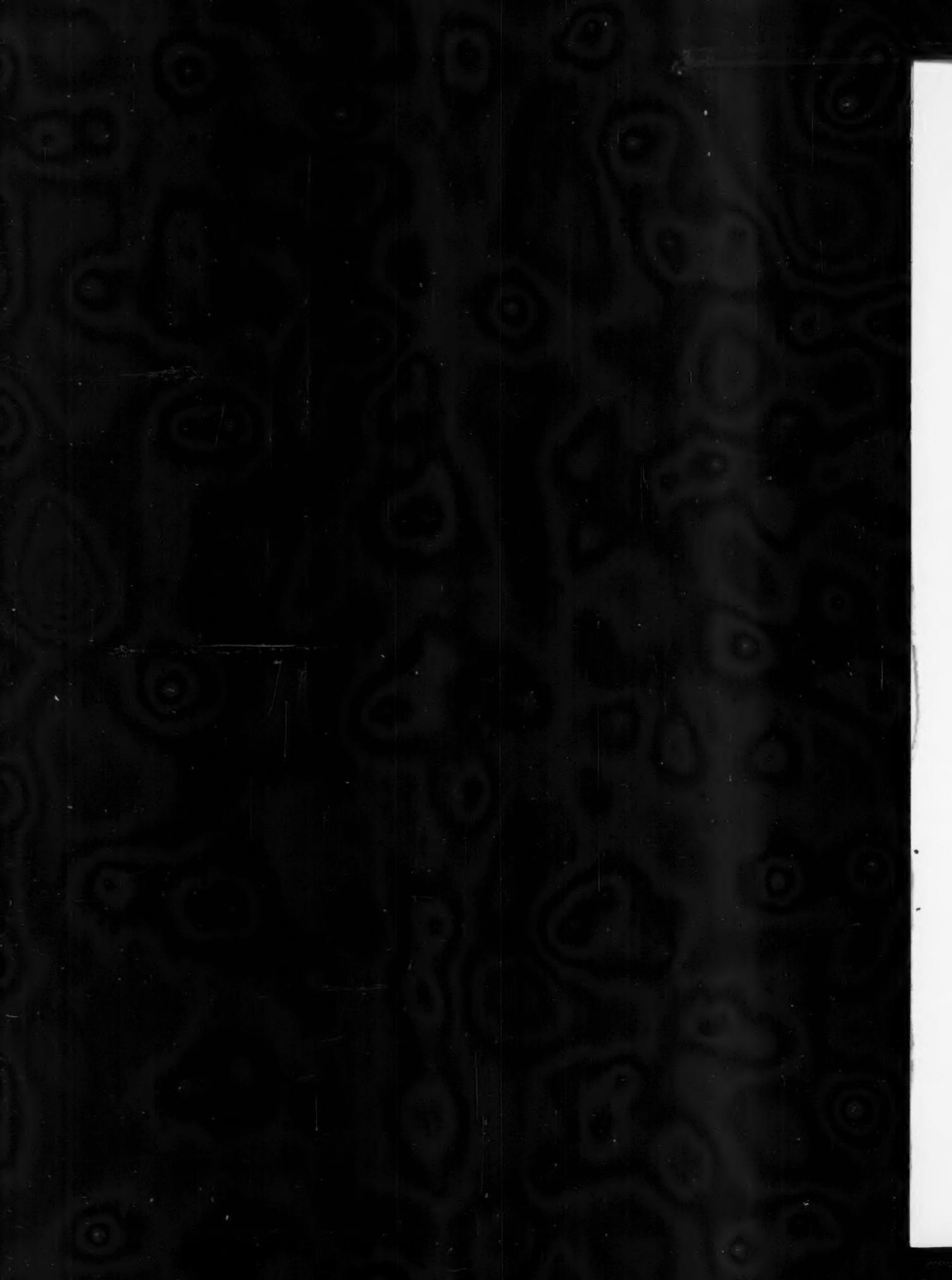
Circle 24 on Reader Service Card

**Portable Work Positioning Lift Table . . .** This lift table is designed to slide under standard skids and can be readily shifted from one location to another. There are no external elements to hinder the operator's approach to the work load. And the outside dimension of the top represents the true maximum working area. The motor, pump and lift mechanism are completely self-contained. Further information is available from Southworth Machine Co.

Circle 121 on Reader Service Card

**Crane Assemblies . . .** together with jib cranes, overhead electric traveling cranes, electric hoists, chain hoists and trolleys and hand geared cranes are discussed in Bulletin 5000A covering the complete line of Conco cranes and hoists. It is offered you by Conco Engineering works.

Circle 35 on Reader Service Card



**Freedom From Flat Tires**  
 . . . Notat laminated tires are said to completely eliminate "downtime" caused by tire trouble. There's no tube or air chamber to go flat. And, unlike solid tires, Notats will "give" to prevent the jarring of loads. They ride and steer like pneumatics at in-plant speeds. The tires are made of laminated pads molded together and reinforced with steel bands. Further information is offered you by Notat Tire Co.

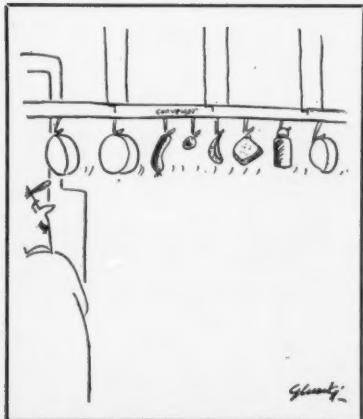
Circle 100 on Reader Service Card

**Ramp Used for Unloading "Piggy Back" Trailers . . .**  
 This magnesium ramp is used to load and unload heavy truck trailers aboard flatcars. The ramp supports an axle load capacity of 66,000 lbs., yet it weighs less than five tons. Mounted on wheels, it can be moved without the need of power equipment. Further information is available from Dow Chemical Co.

Circle 47 on Reader Service Card

**How Stapling Can Cut Costs**  
 . . . If you want to fasten corrugated board, cartons, fabric, leather, plastic bags, wood, roofing, rubber or light metals and find out how stapling can save you money and time in the process then you'll be interested in the bulletins on the subject being offered by Bostitch, Inc. They're yours for the asking.

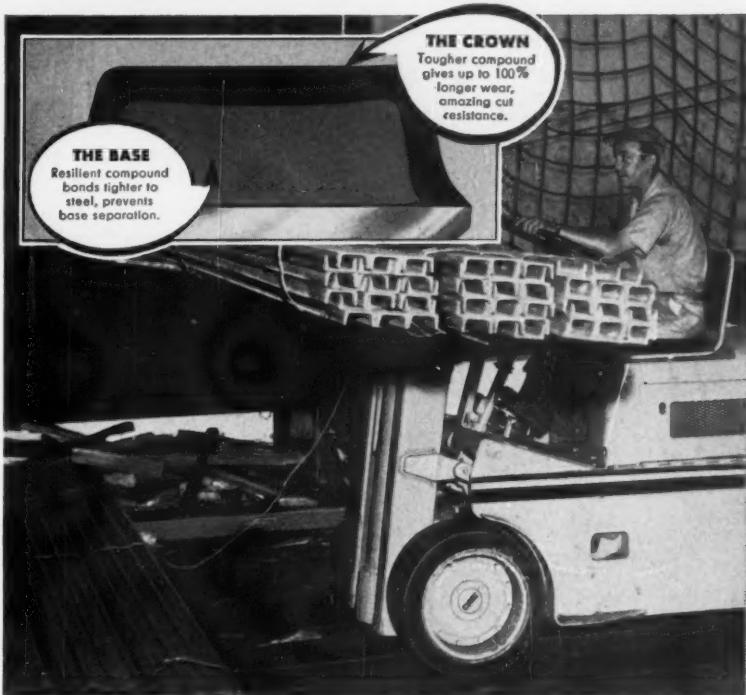
Circle 19 on Reader Service Card



Oh boy, lunch time!

DECEMBER, 1957

## For Twice the Wear at No Extra Cost



# U.S. ROYAL

## INDUSTRIAL TIRES

You pay no more for this new, different, better U.S. Royal, yet you enjoy up to *double* the wear. And you get lower rolling resistance, reduced power consumption, increased stability for greater operating safety.

### NEW—COMPLETE—FREE! SEND COUPON TODAY

Mr. C. E. Drennen, Manager, Industrial Tires,  
 United States Rubber,  
 Rockefeller Center, New York 20, N. Y.

Please rush me your new, authoritative manual on  
 industrial tires.

NAME

ADDRESS

CITY & STATE



## United States Rubber

Rockefeller Center, New York 20, N. Y.

In Canada: Dominion Rubber Co., Ltd.

See things you never saw before.

Visit U. S. Rubber's new Exhibit Hall, Rockefeller Center, N. Y.

Circle No. 137 on Reader Service Card for more information

# An Entirely New Concept



## Greatest stability at every stage of 120 inch lift

Dotted line above shows how Automatic Elbolift's built-in retraction feature maintains maximum stability every inch of its 120" lift. Tilting action illustrated is operated by a single control lever which can tilt and/or lift load separately or simultaneously.

**AUTOMATIC TRANSPORTATION COMPANY**

Division of The Yale & Towne Manufacturing Company  
101 West 87th Street, Chicago 20, Illinois

# in Fork Lift Truck Design...

Automatic

## ELBOLIFT!

### 12,000 TO 20,000 LBS. CAPACITIES

**Eliminates Mast Assembly...Weighs 6000 lbs. less than any comparable mast-type truck...is definitely superior in stability, maneuverability, and operator vision.**

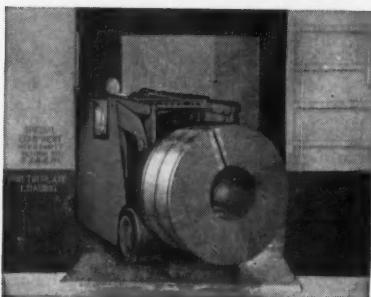


**370% More Visibility:** Picture at left dramatically illustrates the increased visibility over conventional, mast-type, heavy duty trucks. Forks completely visible when entering pallet.

**Drive tires two-thirds of Elbolift's width:** 32 linear inches of the truck's 48" overall width are in contact with the floor for the greatest load distribution and stability.



**Maneuverability:** Carrying a full load of 15,000 lbs. (52" square), the Elbolift passes easily through any 78" boxcar door...will right angle stack a 52" load comfortably in a 13'8" aisle.



**Versatility:** Ram attachment at left can be quickly and easily replaced by adjustable forks for handling dies, pallets, etc.

All conventional ideas of fork lift trucks were scrapped in designing this newest in the long, distinguished line of Automatic "firsts." Only in this way could Automatic engineers achieve the marked improvement in capacity, maneuverability, safety, performance and weight reduction which they had set as their goal.

The result is a truck with capacities from 12,000 to 20,000 lbs. —15,000 lb. model 48" wide, and 105 $\frac{1}{4}$ " long (less forks) is actually *three tons lighter than any comparable mast-type truck*. This permits the Elbolift to operate on floors that would be unsafe for other types of comparable capacity.

Its unique design is also responsible for other advantages...among them the following:

**Exclusive New Power Steering Control**—takes the guess work out of steering. *Operator always knows the exact direction of his steer wheels by the position of the steering lever.*

**Shortest Inside Turning Radius**—does more work, handles heavier loads in less space. Operates easily in 13'8" right angle aisle and 78" boxcar door with 52" square load.

**Highest Lift With Lowest Overall Height**—Elbolift has 80" overall height with a 120" lift.

**Safety**—Easy on—easy off. Operator completely protected by counterweight on both sides and heel plate in the rear. Dead man control...returns speed controller to neutral and automatically applies brake when driver dismounts.

**Exclusive New Inching Control**—4 speeds forward and reverse with foot inching to any preset or selected speed.

**Battery Accessibility**—battery on rollers for quick and easy removal from either side.

But there's ever so much more than can be adequately described here. Why not get the whole story? No obligation. Just mail the coupon below...mail it today.

**AUTOMATIC TRANSPORTATION COMPANY**  
141 West 87th Street, Dept. X-7, Chicago 20, Illinois

Rush me fully illustrated descriptive brochure on the revolutionary new Automatic Elbolift Trucks.

Your Name\_\_\_\_\_ Title\_\_\_\_\_

Firm Name\_\_\_\_\_

Address\_\_\_\_\_

City & Zone\_\_\_\_\_ State\_\_\_\_\_

Circle No. 11 on Reader Service Card for more information



# Most widely-used hand pallet truck in America at NEW LOW PRICES!

MODEL L2P  
Capacity 2,000 lbs.



*Lightweight*

## Hydraulic PALLET TRUCK

More RAYMOND Lightweight Hydraulic Hand Pallet Trucks are purchased today than any other and because of this high volume our production costs have lowered . . . and now we are passing the SAVINGS on to YOU!

Why are so many RAYMOND Trucks being purchased? Because this Hand Pallet Truck does so many jobs so well . . . ruggedly built to withstand years of use and abuse. Lightweight to lessen operator fatigue, easy to maneuver and pull. Patented booster rolls provide effortless pallet entry. Convenient foot pedals lift and lower your load. Completely hydraulic for dependable operation. Includes aluminum alloy construction, husky one-piece welded steel frame, safe dual-purpose brake, 270° turning radius.

● MAIL COUPON for full details!

### The RAYMOND CORPORATION

3310 Madison St., Greene, N. Y.

- Send bulletin on Lightweight Hydraulic Pallet Truck.  
 Please have a RAYMOND representative call.

NAME	TITLE
COMPANY	
STREET	
CITY	STATE

Circle No. 112 on Reader Service Card for more information

### CATALOGS

*Continued*

**Conveyor Belting . . .** No matter what your product or process is, there's an Ashworth Belt design and wire size to help you carry it more efficiently and economically. An illustrated catalog is yours for the asking from Ashworth Bros., Inc.

Circle 10 on Reader Service Card

**Worm Drive Hoists . . .** A wide selection of worm drive hoists with capacities from  $\frac{1}{4}$  to ten tons is described in literature available from Electrolift, Inc. Some of the features are compactness, close headroom and precise control.

Circle 50 on Reader Service Card

**Steel Shelving . . .** Hallowell Erectomatic steel shelving has a built-in locking device that is said to cut assembly time and speed repositioning of shelves. All you need do to position a shelf is to slide it into place on the shelf supports, and press the locks. For repositioning, release the locks, pull the shelf out, slide it on the supports at its new location and press the locks. Full details are offered you by Standard Pressed Steel Co.

Circle 124 on Reader Service Card

**Safety Curbs on Dockboards . . .** end danger of equipment run-offs. These magnesium dockboards are one fourth the weight of steel so can be handled easily by one man. Another safety feature is the indented safety hand holds which eliminate the danger of crushed fingers or hands. A special Dockboard File and news on the new safety lock is offered you by the Materials Handling Div., Magnesium Co. of America.

Circle 84 on Reader Service Card

**Foot Operated Ladder Locks . . .** The Ballymore "Hi-boy" step ladders provide sure support at extra-high working levels up to 15 feet. The step-on brake casters on front of the

ladder grips the floor to prevent ladder from rolling, wobbling or kicking out. When ready to move the ladder, the locks quickly retract by spring action. Complete specifications are available from Ballymore Co.

Circle 12 on Reader Service Card

**Boltless Storage Racks . . .** The Series "500" boltless storage racks have only three basic parts. A sturdy 3/16" steel channel upright, heavy duty channel shelf arms and brace bars. No bolts or clips are used. Assembly or change can be made in a matter of minutes with nothing more than a hammer. Further information is available from Rack Engineering Co.

Circle 109 on Reader Service Card

**Shipping and Storing Containers . . .** suitable for use with perishables, cellophane, wire, drugs, dyestuffs, shortening and many other materials are discussed in literature available from Continental Can Co. These containers are light weight to make handling easier and to keep freight costs down yet they are sturdy enough to take even the roughest treatment.

Circle 36 on Reader Service Card

**One-Man Car Door Opener . . .** opens any box car door in 20 seconds or less with little effort. Multiplies one man's strength a hundred-fold. Details are available from The Nolan Co.

Circle 99 on Reader Service Card

**Industrial Engines . . .** There are four Chrysler in-line 6s, two V-8s—ranging from 230 to 354 cu. inch displacement. Further details and descriptive literature are available from Industrial Engine Division, Chrysler Corp.

Circle 29 on Reader Service Card

**Light-Weight Steel Conveyor . . .** The Load-Vveyor, portable conveyor, has zig zag grids that support both sides of each ball-bearing wheel. Narrow packages ride smoothly between the side rails, or the conveyor



#### The RAYMOND CORPORATION

3333 Madison St., Greene, N.Y.

Please send me latest Reach-Fork Bulletin.

Please have a Raymond representative call.

NAME \_\_\_\_\_ TITLE \_\_\_\_\_

COMPANY \_\_\_\_\_

STREET \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_

Circle No. 111 on Reader Service Card for more information



## Moves Big, Heavy Loads...faster!

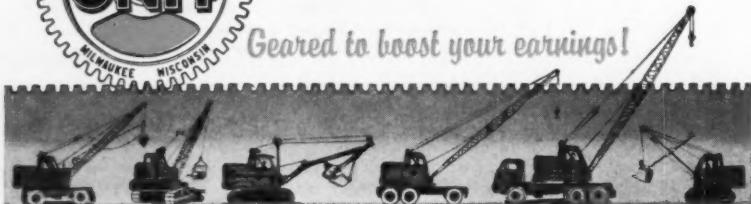
Lifting heavy loads, like this unwieldy 78 foot steel beam, is an easy operation for a UNIT Model 1020 Crane. The LIFT and CONTROL ability of UNIT permits loading and unloading with speed and accuracy.

The Safety-promoting FULL VISION CAB enables the operator to see what he is doing at all times. If you have a material handling job that must be performed quickly, efficiently and with SAFETY...look into UNIT.

*Send for Bulletin Now*

**UNIT CRANE & SHOVEL CORP.**  
6531 W. Burnham St. • Milwaukee 14, Wis., U.S.A.

*Geared to boost your earnings!*



A 8484-74-C

Circle No. 136 on Reader Service Card for more information

## CATALOGS

*Continued*

sections can be inverted to handle overhanging loads. Further information is available from the Materials-Handling Division, The American Pulley Co.

Circle 6 on Reader Service Card

**How to Buy the Correct Belt for Your Conveying Job...** is the title of a 14-page manual which illustrates regular and treated belts and their uses. It's offered you by the Buffalo Weaving & Belting Co., Inc.

Circle 22 on Reader Service Card

**Pre-Engineered and Expandable Racks...** is the title of a catalog available from Multi-A-Frame Division, Ainsworth Mfg. Corp. It is claimed that serrated channel and keyed fittings speed erection and save labor. Positioning of a spring T-bolt and tightening with finger pressure holds the fitting in place until final tightening.

Circle 95 on Reader Service Card

**Remote Control Operation...** is a new Mobilift feature which permits the operator to leave the truck but still control the lifting mechanism. This remote control feature is said to permit one operator to do a job formerly requiring an operator and helper. Free booklets on the Mobilift "Stand-Up" and "Sit-Down" models are available from the Lamson Mobilift Corp.

Circle 77 on Reader Service Card

**Hand Pumps...** Operating on both forward and backward strokes, these efficient pumps deliver 20 gallons per 100 strokes. Available with hose or spout outlets. Further details are available from Tokheim Corp.

Circle 130 on Reader Service Card

**Industrial Trailers...** in capacities from 1000 to 20,000 lbs. are described in data available from Jakes Foundry Co.

Circle 72 on Reader Service Card

**FLOW**

**"How to Streamline Your Shipment Addressing . . . for Speed and Economy",** is the title of a booklet that describes the latest systems for addressing labels, tags and cartons. It's offered you by Weber Marking Systems Div. of Weber Addressing Machine Co., Inc.

Circle 151 on Reader Service Card

**Truck Index . . .** A free truck index bulletin showing over 600 combinations of sizes and capacities of their Red Giant hand lift and Go-Getter electric walkie-trucks is offered you by Revolvator Co.

Circle 113 on Reader Service Card

**Industrial Truck Batteries . . .** C & D's Five-Fold Slyver-Clad construction method of insulation is said to retain the active materials on the plates, and assure maximum capacity throughout the useful life of the battery. Further information is offered you by C & D Batteries, Inc.

Circle 23 on Reader Service Card

**Conveyors . . .** A complete catalog of belt, roller and wheel conveyor units is yours for the asking from Samuel Olson Mfg. Co., Inc.

Circle 101 on Reader Service Card

**Engineered Storage Systems . . .** is the title of a booklet offered you by The Paltier Corp. Among the items shown are stacking hardware for standard pallets, adjustable pallet racks, drive-in racks, pyramiding portable racks, bar stock racks and coil racks.

Circle 105 on Reader Service Card

**If You Have Trouble With Sagging Shelves . . .** insufficient storage space, inflexible wood shelving, or poor layout then a copy of the "Shelving Reference Manual" available from Deluxe Metal Furniture Co. should prove helpful. It describes their complete line of shelving and is yours simply for the asking.

Circle 41 on Reader Service Card

*(Continued on page 50)*

# Handle Sticky Materials Without Buildup on Rolls!



**UNIQUE BELT CONVEYOR IDLER**  
Flexing action of the Joy Limberoller conveyor idler keeps it free of material buildup . . . keeps maintenance to an unheard-of-low.

Belt conveyor maintenance can be a real headache when sticky chemicals and fertilizers start gumming up the idlers. The unique Limberoller belt conveyor idler is completely flexible—made of resilient molded neoprene discs on a flexible steel cable. This flexing action breaks loose any material building up on the rolls—makes maintenance dive 30% to 90%.

The Limberoller has already given over 12 times the service life of conventional idlers in many applications—proved extremely effective in handling triple superphosphate, ammonium sulphate, and sticky fertilizers.

The Joy Limberoller also resists dust, abrasion, and corrosion . . . no bearing trouble because only two bearings are used and these are up out of the dirt zone. Get details from **Joy Manufacturing Company, Oliver Building, Pittsburgh 22, Pa.** In Canada: **Joy Manufacturing Co. (Canada) Limited, Galt, Ontario.**

Write for FREE Bulletin 131-42

*Consult a Joy Engineer*



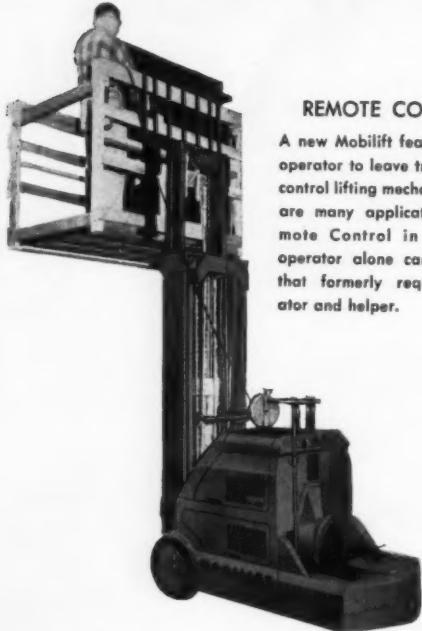
For Air and Gas Compressors, Vacuum Pumps and Boosters, Conveyors, Fans, Electrical Connectors, Oil-Free Compressors.  
WSW 1-6319-131

**JOY**

SINCE 1851 . . . OVER 100 YEARS OF  
ENGINEERING LEADERSHIP

Circle No. 280 on Reader Service Card for more information

# MOBILIFT does more jobs



## REMOTE CONTROL

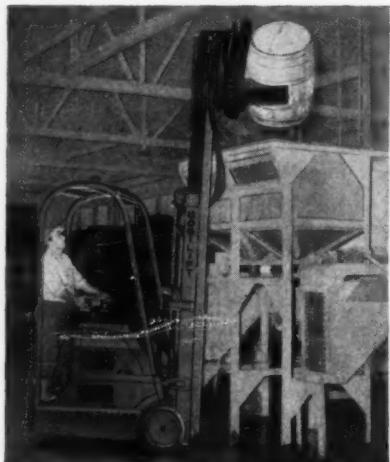
A new Mobilift feature permits operator to leave truck but still control lifting mechanism. There are many applications of Remote Control in which the operator alone can do a job that formerly required operator and helper.

- than you can shake a stick at!

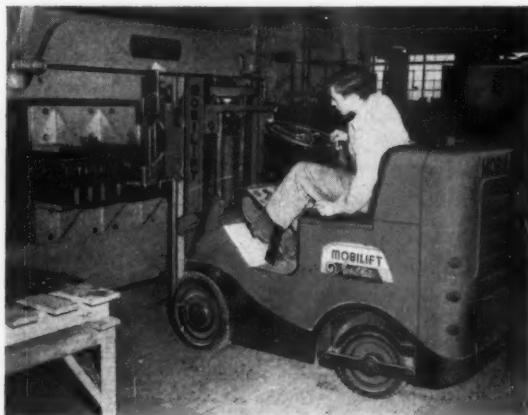
A full line of attachments add to Mobilift's versatility. Triplex masts, side-shifters, drum-clamps—these and many other special equipment features increase Mobilift's value to you. "Stand-Up" models to 3500 lbs. capacity. "Sit-Down" models to 5,000 lbs. capacity. Available with factory-installed LPG equipment.

## Valuable Information!

Write today for your free booklets showing how Mobilift "Stand-Up" and "Sit-Down" models add to profits by reducing handling costs.



At the Diana Fruit Preserving Co., Santa Clara, Calif., cherries were formerly moved by bucket from barrel into pitter. Now a Mobilift with revolving Load Grab lifts the barrel and dumps the cherries. No buckets needed! No bruising of cherries!



A Mobilift and a competitive truck were put on trial at Porter-Cable Machine Co., Syracuse, N. Y. After driving both trucks for several weeks, operator Louis Petrilli says, "Mobilift's automatic transmission and the Hydra-Lizer make driving in really tight quarters a snap! I like my Mobilift. Bet if your drivers try one you'll keep it."

Lamson **MOBILIFT**® Corporation

837 S.E. Main Street, Portland 14, Oregon

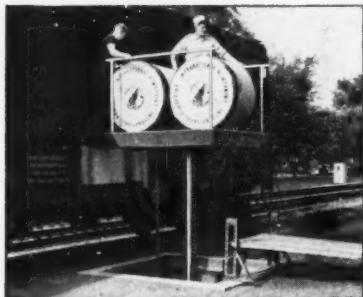
Mobilift Sales and Service Available in 75 Cities throughout the U.S. and Canada  
Circle No. 77 on Reader Service Card for more information

# INCREASED PRODUCTIVITY... HIGHER PROFITS THROUGH MINIMUM HANDLING!

by ANDREW T. BROWNE  
Chief Engineer, *Globe Hoist Company*

The nearer your materials-handling operation comes to being a continuous flow *without handling the material in transit*, the nearer you are to *keeping costs at an absolute minimum*.

A typical costly "bottleneck" in the continuity is the loading of trucks and freight cars. It takes extra men to waste your time and your money loading a truck without the help of a modern *Globe Industrial Lift*. *Globe* offers a selection of three different types of installations to load and unload your trucks or cars quickly, safely and at low cost.



## GLOBE PLATFORM OILIFTS

From the ground to the upper or lower level of freight car bed with the push of a button. Installed inside or out, the heavy non-skid platform recesses flush with surrounding floor or paved area when in "down" position. Wide range of platform sizes, high lifting capacities. Air-oil or electric pump unit power. Also used for truck loading.

**GLOBE**  
**OILIFTS**

PLANTS: DES MOINES - PHILADELPHIA - LONG BEACH, CAL.

PLATFORM  
LIFTS

ELECTRO  
LOADERS

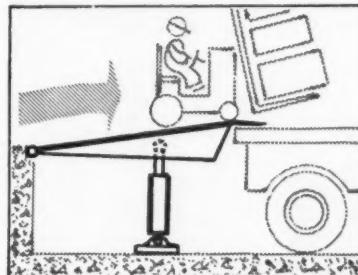
ELEVATORS

TRUCK  
DUMPS

SELF-LEVELING  
RAMPS

BASCULE  
RAMPS

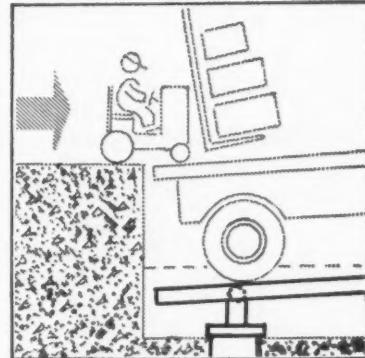
VERTICAL  
BRIDGE LIFTS



## GLOBE TRANS-O-MATIC RAMP

Here is one of the most popular and widely used means of bridging the gap between a dock and a truck.

A *Globe Trans-O-Matic Ramp* is a 20,000 lb. capacity "gangplank" from your loading dock to the truck or trailer bed. One end is hinged to the dock edge, a free-floating lip edge at the other end rides the truck bed. The hydraulic power jack, operated by either air-oil or electric pump unit, rests on a sturdy base plate. Easily and inexpensively installed. Built for hard use and trouble-free operation.



## GLOBE TRUCK LEVELER

This is an easy and much used method of aligning truck-bed levels with the edge of your loading dock.

A *Globe Truck Leveler* is placed at the foot of a loading dock. This heavily reinforced hinged platform raises or lowers the rear of a truck or trailer to the point where the truck bed and dock level are aligned. Dual power cylinders are operated by either an air-oil or electric pump unit.

Industrial plants and warehouses and shippers throughout the world are using these *Globe* products to load their trucks, trailers, freight cars and even aircraft. They have more than paid for their installations with the money saved through the increased speed and efficiency of their loading operations. Some have taken advantage of *Globe*'s

Time Payment Plan, and are paying only a few pennies a day from the profits resulting from use of their *Globe* installations.

*Globe* manufactures the World's Most Complete line of Industrial Lifts and Automotive Hoists. Send for a Catalog describing the *Globe Lift* that will do the best job for you.



**GET  
YOUR  
FREE  
COPY  
TODAY!**

**GLOBE HOIST COMPANY**  
East Mermaid Lane at Queen Street  
Philadelphia 18, Pennsylvania

F-813-L  
Please send me detailed information on *Globe*  
Hoists for \_\_\_\_\_  
(describe application intended)

NAME \_\_\_\_\_

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_

Circle No. 61 on Reader Service Card for more information

# HIGHLIGHTS

## of the Month's News

### Western Regional Plans Okayed

Ready to go in '58 is the western Regional Material Handling Show. Date—May 8, 9, 10 . . . Place—Great Western Exhibit Center (Los Angeles). Area is 125,000 square feet, divided into 520 exhibit spaces. Plenty of seminars and conferences, promises Perkins-Lee, producer of the Show. *Added attraction: National Fork Lift Championship Rodeo, with lift-truck riders in the saddle.* Joe Druliner (Norris Thermador Corporation), representing Los Angeles AMHS Chapter, says, "We'll have delegates from business, industry, government, and the armed forces."

### Automation Goes Overseas

"Automatisk produktion", read the sign above the Pak-Rapid equipment at St. Erik's International Trade Fair in Stockholm, Sweden . . . U.S. Government Exhibit in the American Pavilion had pointed up "Automation at Work" as a theme, and the automatic packaging machine was part of an integrated production line that demonstrated the slogan. Visitors (total, 239,700) from all over the world came and saw. Among the U. S. officials: Sinclair Weeks, Secretary of Commerce.

### New Corporation Registers

Industrial Lift Truck Sales of Saginaw, Michigan, has incorporated. Officers: Charles A. McCormic, President; William E. Einwachter, Vice-President; Helen A. McCormick, Secretary-Treasurer; E. G. Butterfield, Member, Board of Directors. Corporation's activities include new equipment sales, service; maintenance, rentals; repairs; LPG sales and service; material handling engineering.

### Exhibit Nearly Sold Out

The 1958 Packaging Machinery and Materials Exposition has 90 per cent of its exhibit space already sold, says K. B. Hollidge, chairman. Atlantic City's Convention Hall is the place, March 25 through 28 the date. Latest packaging machinery will operate, packaging material advancements will be shown. Need help on packaging problems? Three trade association information centers will serve you.

### Freight Consolidation Course To Start

Pilot Session of a freight consolidation course starts October 24 at TMI School of Transportation (New York). Cutting transportation costs by use of pooling methods pioneered in major firms will be the theme of 16 three-hour classes. Instructor: Mr. Harry M. Fraser, retired Director of Traffic, Woolworth Company—now President of United Pool Car Distributors. Enrollment limited, but open to people with experience in traffic and transportation.

### Non-Slip Coating Given Clean Bill of Health

Was the new coating (sprayed on corrugated containers to aid stacking) toxic? Did its "dust" pollute the air? Container Corporation (Philadelphia Division) and Paisley Products got an answer by engaging Leon D. Horowitz, PE, industrial consultant and air pollution authority, to test the non-skid spray. Findings: With the exhaust system off, one-third the maximum allowable concentration; with the exhaust on, an almost undetectable amount. (Complete data of the Horowitz report are available from Paisley Products, Inc.)

**L-S****ELECTRICS FOR LIFT TRUCK SAVINGS**

L-S Model "E" Electrics equipped with special 180° rotating attachment now dump 2000 lb. loads of raw potatoes directly into processing hopper. With this new bulk method, every L-S truck at H. W. Lay & Company handles up to 80 tons of potatoes a day!



Here, L-S electric fork lift stacks boxes four high to 20' . . . adds thousands of feet of storage space with less floor area! Box pallets each hold a ton of unbagged potatoes. Slatted sides allow air to circulate and reduce potato shrinkage.

Trailing high, bulky loads is simple and safe with L-S Electrics. Exclusive Standdrive position gives operator greater freedom getting on and off . . . full visibility when traveling in forward or reverse.



## SAVED: \$160,000 in one year!

At H. W. Lay & Company, Atlanta, Ga. . . . project manager, Mr. H. C. Waggoner estimates, "The use of Lewis-Shepard trucks will save us at least \$20,000 in labor alone over the hand and jack truck methods formerly used. This, added to savings in space, results in a total saving of \$160,000 in our first year!"

Using four L-S Model "E" Electrics . . . Lay and Company now stores and handles potatoes by the bulk ton. Most important, these high-stacking lift trucks doubled overhead storage space . . . reclaimed over 20,000 sq. ft. of valuable floor area for productive use.

Lay's also chose L-S Electrics because fumes and food don't mix. The Model "E" is clean, silent . . . works without odors, smoke, oil or grease stains. What's more, compare gas vs. electric truck costs. For low-cost maintenance and full-time dependability . . . you'll choose L-S, too, because it's your best truck buy! Mail coupon for full information.

Here's a list of important companies that have recently reordered L-S Model "E" Electrics:

	Now in use	Reordered
Electrical Goods Mfg.	110	24
Overland Express	81	23
Office Supply Mfr.	17	2
Refrigeration Plant	10	4
Food Chain	3	7

**L-S****LEWIS-SHEPARD®**

The most complete line of materials handling equipment anywhere

The "MASTER" Line

1312 Walnut Street, Watertown 72, Mass.

Please send me:

L-S Model "E" Catalog #32-1    L-S MASTER Line Catalog    L-S "Gas vs. Electric Cost Study"

Name.....

Title.....

Company.....

Address.....

City.....

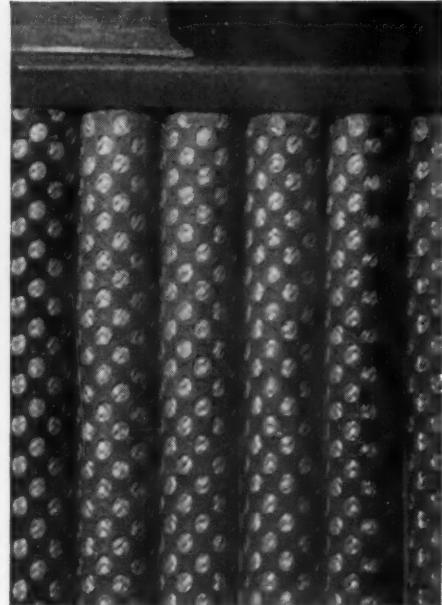
State.....

Circle No. 79 on Reader Service Card for more information

# NEW TG EXIDE-IRONCLAD BATTERY SELLING AT RECORD LEVELS



**Keeping up with sales.** The busy shipping floor at the Exide plant. High volume production insures prompt delivery on all orders.



**New tubular construction of positive plate.** Holds more active material, gives you highest capacity per cubic inch of any industrial truck battery.

## **Electric industrial truck users buying it up for "greater economy" and "more power" advantages**

Introduced only last April, the new TG Exide-Ironclad Battery is already selling at a faster rate than previous model Exides ever did in a similar period. Indications are that it is on its way to being the biggest selling electric industrial truck battery in history.

Experienced electric industrial truck users are the major buyers—the men who know batteries and see in the TG more value for

their money. But in addition, there are truck users who are switching to this TG Exide-Ironclad Battery from cheaper but less economical makes.

If you want maximum economy and better performance in the operation of your electric industrial trucks, get the new TG Exide-Ironclad Battery. You can have more capacity in the same size or the same capacity in a smaller

size at a lower cost. Call your nearby Exide representative. Or write for detailed bulletin. Exide Industrial Division, The Electric Storage Battery Company, Philadelphia 2, Pa.

# Exide®

The Electric Storage Battery Company

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## CALENDAR OF EVENTS

### December 3

Electric Overhead Crane Institute  
Annual Meeting  
Statler Hotel  
Washington, D. C.

### December 1-6

The American Society of Mechanical  
Engineers  
Annual Meeting  
Statler and McAlpin Hotels  
New York, New York

### January 18-22

Canning Machinery & Supplies  
Association  
51st Canners Show  
Convention Hall  
Atlantic City, N. J.

### January 30-31

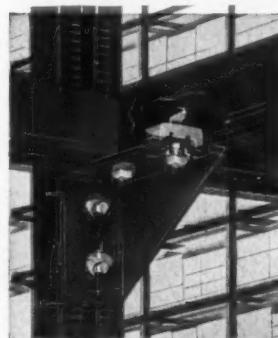
The American Society for Engineering  
Education  
1958 College-Industry Conference  
University of Michigan  
Ann Arbor, Michigan

### May 12-15

Canadian Warehousemen's  
Association  
41st Annual Convention  
Seigniory Club  
Montebello, Quebec



## No matter what the size and shape of your storage problem — you'll save with **MULT-A-RACK**



Exclusive serrated channel and keyed fittings speed erection, save labor. Simply position spring T-bolt and tighten with finger pressure. Fitting remains in place until you're ready for final tightening.

SEE OUR CATALOG IN SWEET'S

**1800 STANDARD DESIGNS:** Now, Mult-A-Racks bring you bolted construction savings together with custom designed convenience. Pre-engineering makes the difference. You simply look over our catalog of 1800 standard rack designs; identify your pallet type; list your load requirement; select your rack size and order. And they can be expanded any time.

**ALL 100% SALVAGEABLE:** Rack areas change? It only takes a wrench to disassemble and rebuild Mult-A-Racks. All Mult-A-Rack parts can be used over and over again.

**AN ADDED COST SAVER:** No skilled labor is needed to erect Mult-A-Racks. So Mult-A-Rack assembly costs are surprisingly low. Should you like to know more about how pre-engineered Mult-A-Racks can save you time and money, send today for your free copy of the new Mult-A-Rack catalog — "Pre-engineered and Expandable Racks" — showing 1800 different standard Mult-A-Rack designs.



### MULT-A-FRAME DIVISION

Ainsworth Manufacturing Corporation

1471 E. Atwater St., Detroit 7, Mich.

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Well—who you lookin' for?

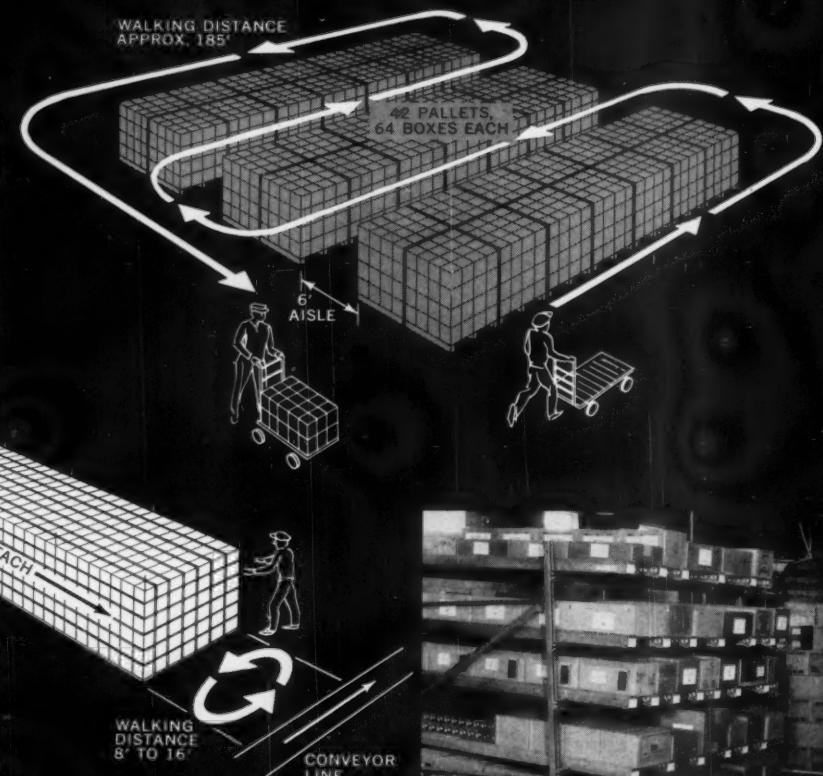
**PALLET LOAD ORDER PICKING**  
Length of order picking route, approx. 185'. 42 different items stored on 42 pallets of 64 boxes each, total 2,688 boxes.

LOADING END

42 GRAVITY FLOW LANES, 64 BOXES EACH

**LIVE STORAGE ORDER PICKING**

Length of order picking route—maximum 16' (twice face width of rack). Rack requires only  $\frac{1}{3}$  as much floor space. Order picking and loading operations are separated for efficiency. 42 different items stored in 42 gravity flow lanes of 64 boxes each, total 2,688 boxes. Can be used for full-carton or "split" order picking.



Order picking (unloading) end of typical A-F Live Storage Rack, showing Live Rail construction of gravity flow lanes.

## A-F LIVE STORAGE RACKS

### Tremendously reduce walking distance, speed up order picking

Take a new look at your order picking system. Do pickers walk hundreds of feet just to select a few items? With A-F Live Storage Racks, dozens of items are available in only a few feet. You can select a complicated order with virtually no walking at all!

This order picking efficiency is only *one* of the many advantages you'll gain with A-F Live Storage Racks. You put aisles and overhead space to work. You can store far more items in a given area—often 3 or 4 times as many as with pallet loads! Taking inventory? Simply count the empty spaces in the rack. Need to keep production "batches" in order? With live storage, first-

in first-out is inherent. Different-size packages? Every lane can be a different width. If necessary, each lane can accommodate several different package sizes at once.

Future changes? A-F Live Storage Racks are completely flexible. Width and height of lanes are easily changed to suit new package sizes. The exclusive design of A-F Live Rail gives the rack this flexibility. Its guard is integral, it stands up by itself even when not fastened to horizontal members.

A-F engineers will survey your present storage facilities, suggest cost-saving improvements and submit a proposal. Write today for complete details.



A-F founded the package conveyor business in 1901

## A-F Conveyors

Custom Engineered Conveyor Systems

Packaged Conveyors—Wheel, Roller, Belt, Trolley

Pan and Rack Washers

Metal Cleaning and Processing Equipment

The Alvey-Ferguson Company, Dept. RD-12, Cincinnati 9, Ohio

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## News About SIPMHE

### Atlantic City Was Tops

By John Mount  
President SIPMHE



OUR ANNUAL show and exposition, along with its Short Course and National Packaging and Material Handling Competition, is once more a thing of the past. For those of us who were fortunate enough to get to Atlantic City, I feel sure we all saw and learned many things that made the trip worth while. We also had numerous opportunities to renew old acquaintances, as well as to make new ones.

Now we are back at our own packaging and handling grounds, and I'd like to use this message as a reminder to review again some of the things we saw and talked about. Have you investigated for your own work the new ideas you liked so well in Atlantic City? We should not let the enthusiasm we felt there be pushed aside by the

doldrums of our daily routines, or by that old bugaboo—procrastination. Surely that bright idea had a worthwhile thought behind it. It is up to you to explore it further.

For those of you who were not fortunate enough to attend the show, you can still benefit from the things that happened there. *Flow* magazine and other publications are carrying many of the thoughts and ideas, in both word and picture form. In addition, some of your fellow members in your division of SIPMHE were undoubtedly there. They can answer your questions and highlight the exhibits and competition winners.

The exchange of ideas and knowledge is the background and purpose of any professional society such as ours. Don't let the everyday routine keep you from attaining the progress we all want and need.

A TESTIMONIAL was presented Paul F. Schreck at the 12th National Industrial Packaging and Handling Exposition, for his services as general chairman of the show. Schreck is vice president of Moto-Truc Co. John W. MacReynolds (left), board chairman, is shown presenting him the award.



BALTIMORE, MD.—The second annual Packaging and Handling Exhibit was held at the Alcazar Hotel, Baltimore, on November 26, by the Maryland Division of SIPMHE. The exhibit was fol-

lowed by a banquet, at which the guest speaker was **Don Kellet**, president of the Baltimore Colts professional football team. **John Mount**, national president of SIPMHE, also attended the meet-

ing. He presented a plaque of appreciation to **Ed Steinwedel**, past president of the Division.

LOS ANGELES, CALIF.—"Corrosion Control" was the subject of the Southern California Division's regular meeting on November 4. Principal speaker was **Stanley Slepiska**, director of Preservation and Procedures Division, U. S. Naval Construction Battalion Center, Port Hueneme. His topic was: "Problem areas in the preservation of automotive and construction equipment." Slepiska was accompanied by **Lt. R. A. Bafus** and **Capt. W. M. Landau**, also of the Navy. A question and answer period followed the address. The panel of experts included **Slepiska**, **Fred J. Hanley**, **Dr. U. B. Bray**, and **C. D. McLean**, **Noble W. Jones** was moderator.

YORK, PA.—The Central Pennsylvania Division of SIPMHE recently toured the C. H. Masland & Sons plant in Carlisle, Pa. Masland is a leading manufacturer of rugs and broadloom carpets. Following the tour, dinner for the group was held at Masland's famous Kings Gap Mountain Lodge in the Blue Mountains.

COLUMBUS, OHIO—New officers of the Central Ohio Division of SIPMHE were installed at a regular meeting held recently. They are: **Bill Burden**, president; **Bill Mosier**, executive vice president; **Al Fourman**, material handling vice president; **Les Beggs, Jr.**, packaging vice president; **Jack Worrell**, secretary; and **John Schwartz**, treasurer. The group plans to begin soon to conduct a series of study sessions for the Purdue University packaging course.

# F-G-M STORAGE PLANNING

...GETS MORE INTO LESS SPACE  
...CUTS HANDLING TIME SHARPLY!

Up to 75% savings  
in floor space have  
been realized by con-  
version to Rotabin  
planned storage!



F-G-M Warehouse  
Racks 9 feet wide  
for heavy loads.

Operations involving costly machines and highly skilled labor can no longer be supported economically by sprawling, inefficient storage methods.

Ask Frick-Gallagher how F-G-M Storage Planning can save manpower inside and outside of storage areas, provide greater accessibility in less floor space, and reduce your factory cost. F-G-M experience and know-how are available to you for the asking.



Send today for your free copy of Brochure 700-A on "How To Double Your Warehouse Capacity." The Frick-Gallagher Mfg. Co., 105 S. Michigan Ave., Wellston, Ohio.



B-2

## FRICK-GALLAGHER BONDERIZED STEEL EQUIPMENT FOR EVERY STORAGE NEED



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50

## CATALOGS . . .

(Continued from page 41)

**Electric Hoist . . .** Everything is built-in and enclosed, to achieve complete streamlining. Automatic up and down-stops for safety. The push button controlled "Detroiter" can also be furnished for air motor operation in place of electric motor. Bulletin 850 gives complete details and is offered by the Detroit Hoist and Machine Co.

Circle 44 on Reader Service Card

**Collapsible Shipping Container . . .** that is said to assemble completely with clips, quickly and positively, is detailed in literature from Ackermann Mfg. Co. The manufacturer points out that one man with a hammer can quickly assemble these steel containers, tradenamed Band-Box.

Circle 152 on Reader Service Card

**Dock Shelters . . .** This all-weather dock protector controls temperature, helps speed loading and unloading. Made of heavy-duty industrial fabric over heavy galvanized steel frame. Custom-built to fit any size rail or truck dock. A free catalog and samples of fabric are offered by Frommelt Industries, Inc.

Circle 149 on Reader Service Card

**Truck Ramps and Levelers . . .** Their complete line of industrial lifts and automotive hoists is described in a catalog offered by Globe Hoist Co.

Circle 61 on Reader Service Card

**Sling Book . . .** A 56-page book on wire rope slings and assemblies is offered you by John A. Roebling's Sons Corp.

Circle 114 on Reader Service Card

**Conveyor Drives . . .** Anchor overhead conveyor drive units are available in all sizes for constant or variable speeds. Further information and data are available from Anchor Steel & Conveyor Co.

Circle 8 on Reader Service Card

FLOW

# Keep Going All Day with K-W Complete Power Unit System



- Recharge Battery Anywhere in Plant
- Needs No Special Charging Equipment
- No Moving Parts
- Lower Cost and Down Time for Battery Maintenance
- Longer Battery Life
- Use Any 110-120 Volt, 50/60 Cycle AC Circuit



Barrett Pallet Ox moving a pallet load to a trailer truck. Units available in 4000 and 6000 lb. Capacities.

With the K-W complete power unit system on your trucks you can schedule battery recharging anywhere in your plant at any time. Now K-W puts truck down time for battery recharging on a controlled end-of-shift or staggered operational basis to fit your needs. K-W increases handling efficiency by giving you the flexibility of decentralized truck charging. This flexibility adds valuable storage space and saves operator time—no return to central charging location. K-W insures full truck power and performance when you need it, keeps trucks going all day.

K-W users report major savings in battery and charger costs. No special plant high voltage charger installation is necessary. Each unit plugs

into any 110-120 volt, 50/60 cycle AC circuit. Battery recharging is completely automatic and self-adjusting—no attendant needed. Flushing requirements are less because lower battery temperature means less electrolyte loss. There is less gassing due to lower finishing rate. Lower maintenance cost with these K-W features.

Side and top charger mountings available for all truck requirements. The K-W selenium charger is lightweight with no moving parts. Units are encased in steel and built for long trouble-free operation under severe conditions. **WRITE FOR COMPLETE FREE INFORMATION ON HOW THE K-W COMPLETE POWER UNIT SYSTEM CAN CUT COSTS IN YOUR PLANT.**

**Specify the K-W Complete Power Unit on Your Next Truck  
K-W Batteries for All Industrial Applications.**



**K-W BATTERY COMPANY**

SKOKIE, ILLINOIS • IRVINGTON, NEW JERSEY

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DECEMBER, 1957

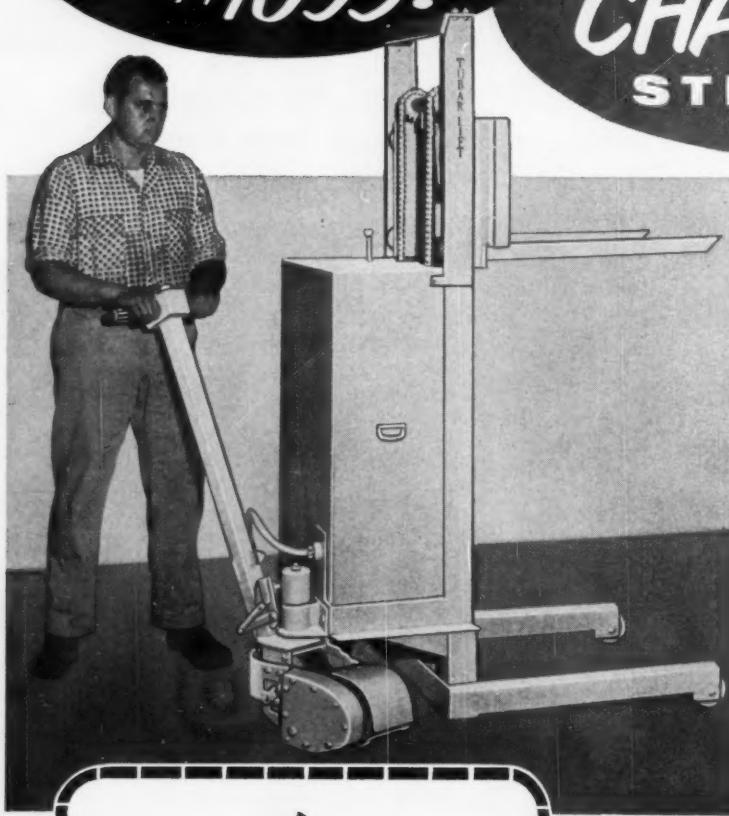
SALES and SERVICE



in PRINCIPAL CITIES

**NOW!** A COMPLETELY  
POWERED  
FORK LIFT TRUCK  
for only \$1095!

THE ALL NEW *Tubar* LIFT  
**CHAMPION**  
STROLLER



**Advanced SAFETY FEATURES**

- ★ Self-releasing controls
- ★ Sure-stopping three-position wheel brakes
- ★ Emergency brake for self-locking position
- ★ Handle can't drop—swings up automatically when released

U-1056-71

*Powerful... Versatile... Compact*

Capacity ..... 1000 lbs.  
Lifting Height ..... 60"  
Overall Height ..... 73 1/2"  
Overall Length ..... 53"  
Overall Width ..... 30 1/2"  
Height of Outriggers ..... 4 1/2"

I.D. of Outriggers 24"  
O.D. of Forks 23 1/2"  
I.D. of Forks 15 1/2"  
Length of Forks 25"  
Maximum Lifting Speed 33 ft./min.  
Shipping Weight 600 lbs.



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# News About AMHS

## National Membership Champs Honored

The Los Angeles Chapter of AMHS and the Northern California Chapter won national awards for setting a gain in membership records of 1957 over 1956. Los Angeles had a 40% gain in membership and Northern California



recorded a 24% gain in membership. **Harry Wood**, past president of the Northern California Chapter (shown left above), receives the congratulations of **Ed Sullivan**, Western regional vice president of the AMHS.

## New Jersey Chapter Plans Material Handling Conference and Exposition

The New Jersey Chapter AMHS is planning a Material Handling Conference and Exposition to be held February 5, 1958 at The Mosque, Newark, New Jersey. An internationally known corporation will sponsor the conference. This company is not a manufacturer of handling equipment but one of the largest consumers of all types of material handling machinery. The sponsor will present various problems in all phases of material handling and their solutions. Interesting speakers, slides and motion pictures are scheduled to illustrate the practical application

of basic handling equipment.

Following the Conference the exhibits will be opened for first hand inspection of the latest equipment in material handling. Admittance to the Conference and Exposition will be by tickets distributed by exhibitors or as requested by mail from the New Jersey Chapter.

## Cleveland Chapter To Sponsor Fork Truck Rodeo

The Cleveland Chapter of AMHS is making plans for a Fork Truck Rodeo on April 12, 1958. The purpose of the Rodeo is to focus more attention on the safe, skillful, economical operation of material handling equipment. The Rodeo will be jointly sponsored by the Cleveland Chapter, the American Society of Safety Engineers, and the Cleveland Safety Council with the objective of increasing safety and economy of operation.

**VANCOUVER, BRITISH COLUMBIA**—Members of the British Columbia Chapter of AMHS recently heard a discussion of warehouse planning principles. **Al Webster**, warehouse superintendent for Canada Safeway discussed the planning and layout of his newly built distribution center in Burnaby. After his brief rundown of the development plans, **Capt. Dave Roberts**, Chairman of the Education Committee, introduced a panel of other warehouse supervisors who discussed the problems of warehouse planning.

**HAMILTON, ONT., CANADA**—**Fred Pegg**, assisted by **Stanley McCallum**, Bendix Eclipse of Canada Ltd., addressed the Hamilton Chapter on the subject "Propane Gas in Material Handling".

**ERIE, PA.**—The Nov. 7th meeting of the Erie Chapter AMHS featured an address by **Edward H. Leighten**, Editor, Flow and Material Handling Illustrated. Mr. Leighten's talk, "Where Do We Go From Here?", was concerned with the widening scope and responsibilities of material handling activities—including packaging and shipping.

**ROCHESTER, N. Y.**—At a recent meeting of the Rochester Chapter, a three member panel consisting of factory representative from the Lewis-Shepard, Clark and Yale and Towne Companies discussed "Pros and Cons of Gas, Electric and Propane Trucks". Safety features, cleanliness, efficiency, cost of operation, maintenance, flexibility in usage, and operating characteristics were discussed. **W. A. Seeber** was moderator.

**PHILADELPHIA, PA.**—**Walter M. Young**, director of sales, Richardson Scale Company, recently addressed the Philadelphia Chap-

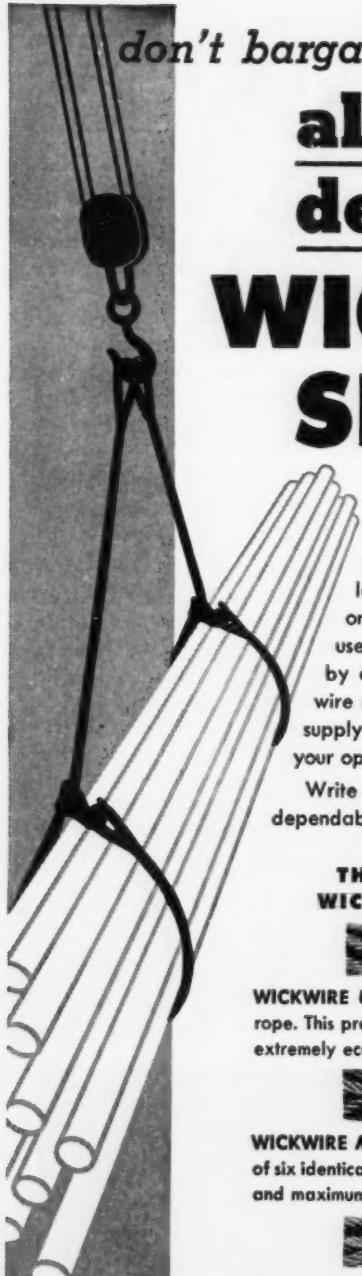


ter on the subject of "Automatic Batching and Weighing".

**James H. Williams**, assistant to vice president and general manager, Eastern Area, Bell Telephone Company of Pennsylvania, will be the speaker for the November 15th meeting of the chapter. His topic for discussion will be "Versatile Industrial Communications".

*don't bargain with safety*

**always use  
dependable  
WICKWIRE  
SLINGS**



The cost of a wire rope sling is so small, yet a single failure can cause thousands of dollars in damage . . . and endanger everyone on the job site. So don't take chances. Always use Wickwire Wire Rope Slings—they're made by one of America's oldest and most trusted wire rope manufacturers . . . and Wickwire can supply you with the type of sling that's best for your operations.

Write today for complete details about safe, dependable Wickwire Wire Rope Slings.

**THREE POPULAR TYPES OF  
WICKWIRE WIRE ROPE SLINGS**



**WICKWIRE UNIFLEX® SLINGS**—Each leg is a single wire rope. This provides a high "strength-to-weight" ratio and is extremely economical.



**WICKWIRE MULTIFLEX® SLINGS**—Each leg is a flat braid of six identical wire ropes. This gives a large bearing surface and maximum unidirectional flexibility.



**WICKWIRE MAXIFLEX® SLINGS**—Each leg is a round braid of eight identical wire ropes. It is extremely flexible in all directions and is the most widely used of all types of braided slings.



**WICKWIRE  
WIRE ROPE SLINGS**

PRODUCT OF WICKWIRE SPENCER STEEL DIVISION  
THE COLORADO FUEL AND IRON CORPORATION

THE COLORADO FUEL AND IRON CORPORATION—Albuquerque • Amarillo  
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Chicago • Detroit • Emlenton (Pa.) • New Orleans • New York • Philadelphia

5234

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**NEWS  
AND NOTES**

*(Continued from page 26)*

formerly affiliated with Industrial Farm and Equipment Corp. in Chester, Pa.

**BATTLE CREEK, MICH.**

New dealers in St. Louis, Mo., and Birmingham, Ala., have been appointed to sell and service the line of fork trucks, straddle carriers, towing tractors and powered hand trucks manufactured by the **Industrial Truck Div., Clark Equipment Co. AAA Equipment Service Co.**, St. Louis will handle Clark sales in eastern Missouri and 23 counties in southwest Illinois. **Rushton Equipment Corp.**, Birmingham, will handle sales in northern and central Alabama.

**INDIANAPOLIS, IND.**

**Robert B. Bowman** has joined the Indianapolis sales staff of **Material Handling Equipment, Inc.** He will concentrate his efforts on engineered projects, involving conveyors, cranes, hoists, monorail racks and other special engineered equipment. He will operate in the northwest portion of Central Indiana and Marion County.

**SAN FRANCISCO, CALIF.**

**The Terco Equipment Co.** has been made authorized stocking distributors of ASCO Solenoid Valves by the Automatic Switch Co.

**DETROIT, MICH.**

**Fraza Lift Truck Service, Inc.**, has been named Detroit area distributor for **Coles Cranes, Inc.**, Joliet, Ill., manufacturers of material handling equipment.

Circle No. 31 on Reader Service Card →



**Building site or yard . . .**

**Here's a truck built to work both places**

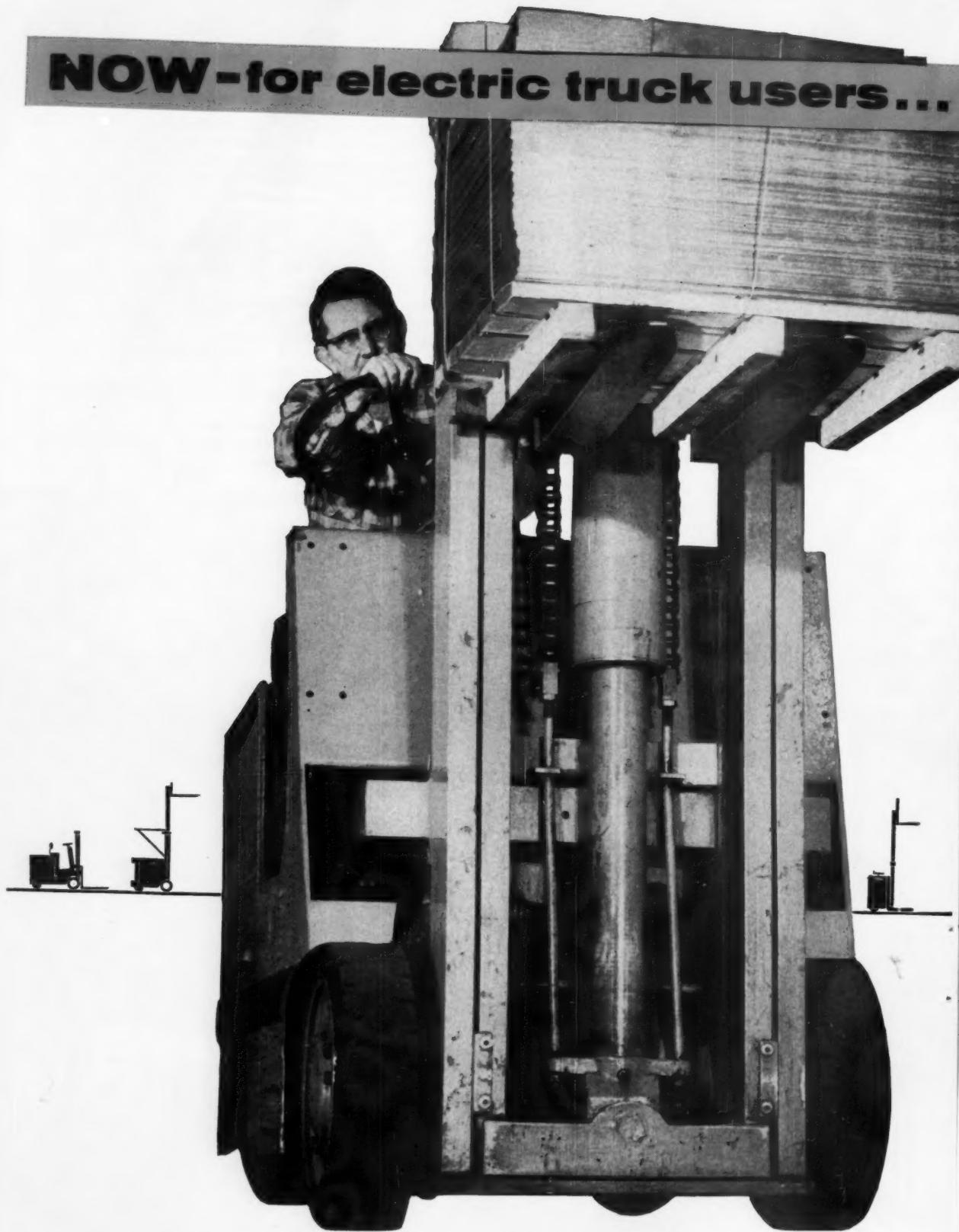
This 4000-lb capacity, pneumatic-tired *Clarklift* Y-40, works just as well at the building site as it does in your yard. The condition of the working area is unimportant, for the all-new *Clarklift* Y-40 is built for rugged working conditions. Take the building site for example. Dual, wide-profile drive tires, plus the same size rear tires, enables the *Clarklift* Y-40 to maneuver over the roughest terrain or the thickest mud with minimum loss of traction or stability. Put the same truck in your yard and you'll find that the standard *Clarklift* Y-40 with power shift transmission, power steering and finger-tip controls, will outperform any comparable truck in maneuverability, driving ease and speed of operation. Why not test it in your own yard. For a demonstration, just call your local Clark dealer or write us direct.

*Your local Clark dealer is listed in the Yellow Pages.*



Industrial Truck Division  
**CLARK EQUIPMENT COMPANY**  
BATTLE CREEK 13, MICHIGAN

**NOW-for electric truck users...**



**BATTERIES FOR INDUSTRIAL TRUCK • DIESEL STARTING • RAILROAD**

## 2 NEW batteries from C&D!

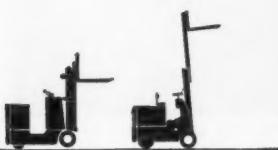
**Get extra life, extra capacity for every make and style truck with C&D Slyver-Clad® batteries**

You get extra capacity—yes, and extra life, too—when you use C & D's proven *Slyver-Clad*® batteries!

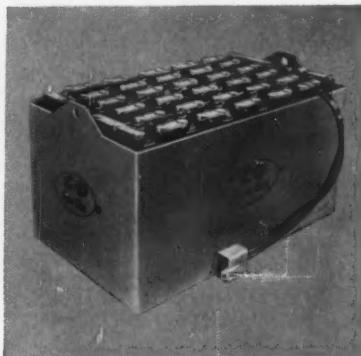
Electric trucks powered with these remarkable batteries work through the longest shifts and move the most material before recharging—thanks to C & D's Five-Fold *Slyver-Clad* construction. This exclusive method of insulation retains the active materials on the plates, and assures maximum capacity throughout the long, useful life of the battery.

Famous *Slyver-Clad* construction is not new. It is the only time-tested construction proven to be responsible for increasing the capacity available per unit of space, and *simultaneously* increasing the life of batteries over the last decade.

Why be satisfied with less than the best. Specify *Slyver-Clad*—the premium battery for Motive Power Service.



For low silhouette trucks—Type CMS—From 6 cells up—55 A.H. per positive plate—Capacities from 220 to 880 at the 6 hour rate—A new, low battery for the low silhouette trucks—Provides 55 A.H. per positive plate where 40 A.H. has been the standard.



For rider trucks—Type HC—From 6 cells up—Minimum of 72 A.H. per positive plate on delivery—Capacities from 288 to 1152 at the 6 hour rate—Sets a new standard for battery capacity for standard rider type trucks.

**The better battery buy is**

**C&D** **BATTERIES, INC.**  
*of Conshohocken, Pa.*

SINCE 1906

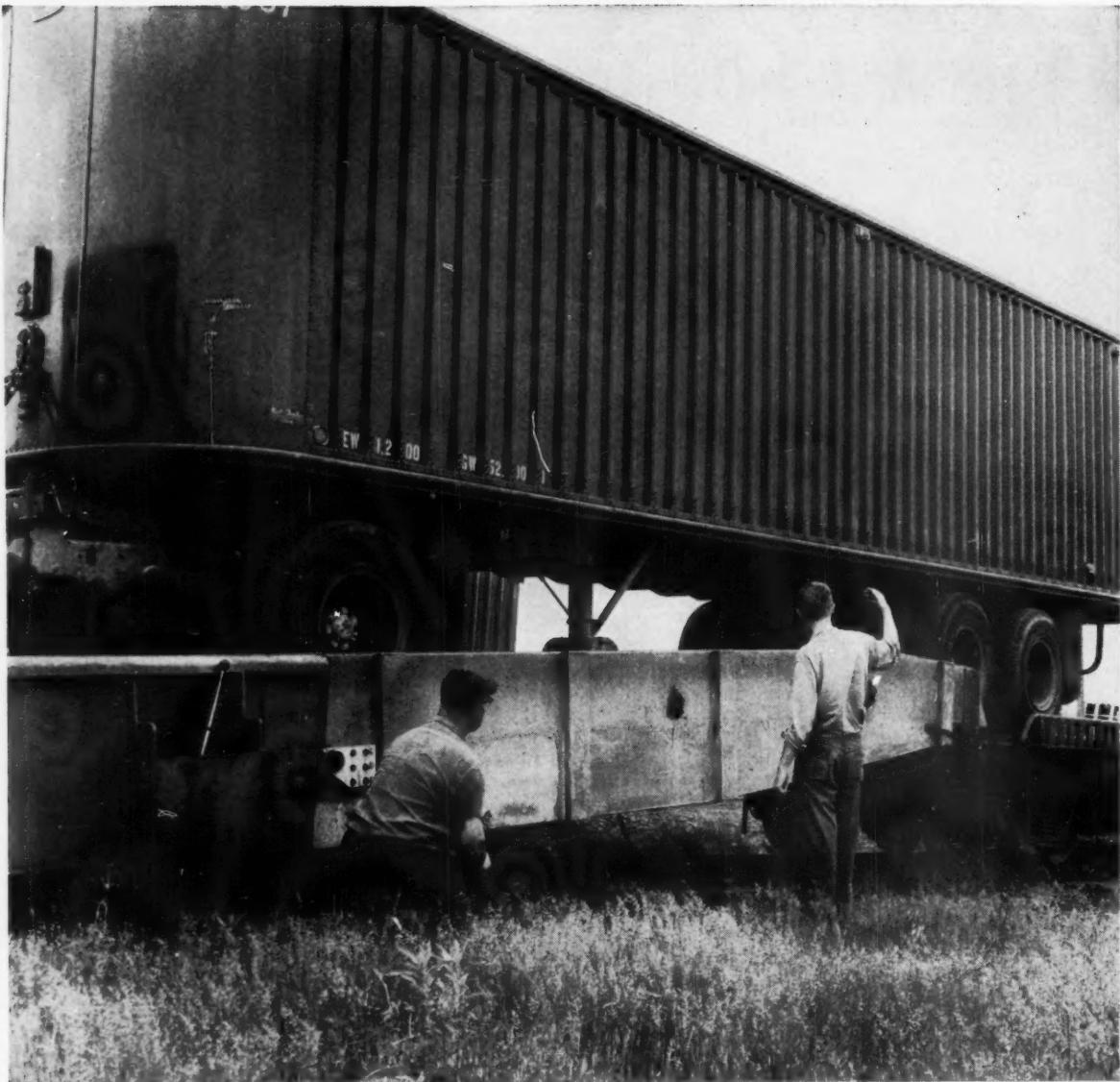
SALES AND SERVICE OFFICES IN PRINCIPAL CITIES FROM COAST TO COAST

**CARLIGHTING AND AIR CONDITIONING • TELEPHONE • CONTROL AND AUXILIARY POWER**

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DECEMBER, 1957

57



## Magnesium ramp plays important role in "Operation TrucTrain" for Pennsylvania R.R.

This light but strong magnesium ramp is used to load heavy truck trailers aboard flatcars on the Pennsylvania Railroad. The principle of the Pennsy's TrucTrain operation (sometimes called "piggy-back") is transportation of loaded highway trailers on railroad flatcars between main terminals, with appropriate highway transportation at origin and destination.

The ramp supports an axle load capacity of 66,000 lbs., yet it weighs less than five tons. Mounted on wheels it can be moved without the need of power equipment.

If necessary, the ramp can be lifted aboard a flatcar for its journey to the next stop with regular R.R. equipment. Because of its ideal combination of strength and light weight, magnesium is a natural for this ramp application—and many others.

Contact the nearest Dow Sales Office for the names of suppliers of magnesium materials handling equipment in your area. For information about magnesium, write to THE DOW CHEMICAL COMPANY, Midland, Michigan, Dept. MA 1411S-1.

YOU CAN DEPEND ON

Circle No. 47 on Reader Service Card for more information



# Will Your Elevator Let You Down?

**D**ependable elevator service in industry is usually taken for granted. But elevator breakdowns or accidents can cause at least a temporary kingsize bottleneck or, at worst a complete shutdown, costly accident payments, and general disruption of otherwise smooth-running operations.

Injuries caused by freight elevator accidents still rank fourth in industry in dollar-cost per case, averaging \$1,022 each. Even considering the small percentage of workers whose jobs are associated with elevators, more than two of every 100 disabling work injuries occur on elevators.

Most elevator breakdowns or accidents are caused by conditions which could have been prevented . . . when the elevator is used for work for which it was never intended . . . when there's a mechanical fault that better inspections would have revealed . . . when equipment such as a power truck is introduced and used in a careless or unsafe manner.

Main mechanical factors that lead to accidents are:

**1. Age.** More than half of all industrial elevator accidents occur with equipment over 20 years old.

*(More on next page)*



# WILL YOUR ELEVATOR LET YOU DOWN? . . .

**2. Inadequate safety devices.** Nearly half of all accidents causing fatalities or serious injury are directly traceable to the absence of adequate elevator safety devices.

**3. Danger points.** Four-fifths of all industrial elevator injuries occur at hoistway or elevator-car entrances. They are either unsafe or not as safe as they could be.

**4. Overloads.** Accidents are often triggered by the carrying of heavy loads or overloads.

Despite the fact that old elevators often cause accidents, don't junk your elevator just because it's old. Many elevators of heavy capacity in daily use today were designed and installed at least a half-century ago. Many, converted from hydraulic plunger type to electric operation, have been reinforced properly maintained, and used within their limits. With frequent inspections, they may continue to operate safely for indefinite periods.



But extreme care is required. Many old elevators simply aren't equipped to handle the demands made by modern power trucks. Elevators designed years ago, in the era when loading was mainly by hand trucks, suddenly are called on to carry trucks and loads far beyond their rated capacities. This may work fine, for awhile, but it leads to accidents.

## How Can Accidents and Breakdowns Be Prevented?

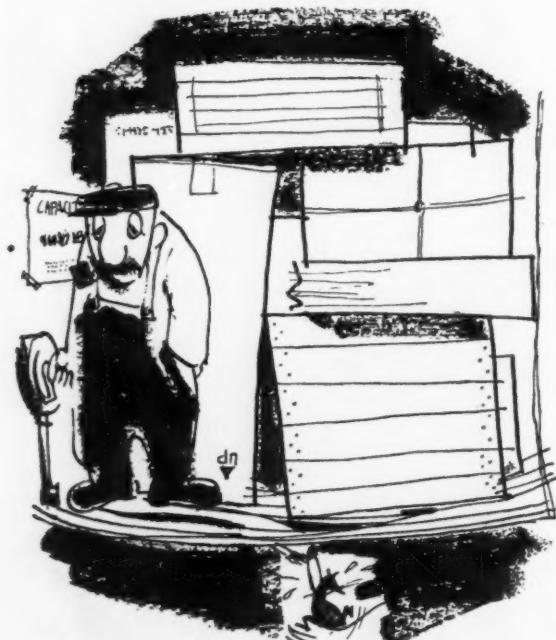
**1.** Have your elevators checked by an expert to determine whether their rated capacity is accurate and adequate, especially when power trucks are used. For information on the design and construction of elevator cars, refer to your State's Elevator Codes.

**2** Have your elevator inspected frequently by outside authorities. Regardless of its age.

**3.** If your elevator equipment is old, consider the possible economies of a new one. Often, elevator cars can be strengthened by installing additional floor joists, preferably steel, and by reinforcing the car frame with braces and plates. Car guide rails can be reinforced with additional brackets, securely fastened to the hoistway. But such measures may have limited benefits, compared with the convenience, maintenance cost, safety and long-term economies of modern equipment.

**4.** Make certain all danger points are made as safe as possible.

**3.** Set up and enforce special rules of operation where needed. Make sure power truck operators know the weight of the truck as well as the weight of the load being carried. Elevator operators should be certain to level elevators properly before a power truck drives aboard. Heavy loads should never be dropped on platforms. Trucks should never drive onto platforms at excessive speeds. It's an excellent rule to have operators stop completely before driving onto the elevator platform. Too often trucks slam into gates or enclosures.



# How Magnets Cut Labor Costs By Two Thirds

A common problem in many plants using conveyors to move parts in process is how to make one type of hanger fit parts of various size.

Borg-Erickson Corporation had this difficulty in moving metal cases, for its line of bathroom scales, through processing. The scale case consists of an upper (platform) and lower (base) half. Hanging these parts on the conveyor was a problem, but getting them to stay there was even more of a headache.

They were using a monorail conveyor loop to carry the parts through the spray booth, flash-off tunnel, and bake oven. Hand trucks transported them from the bake oven to inspection.

On the monorail system, each scale platform was suspended from a metal pin which was inserted into a short section of hollow metal rod permanently attached to the hanger frame. The platform half of the scale case, as it comes off the production line, has a  $2\frac{1}{8}$  inch diameter opening, where the dial fits when the scale is put together. This opening made it easy to hang platform half on the pin. But as it rode along on the conveyor, it shifted and caused trouble in the automatic spray booth. The company uses spray guns that are aimed at an area inside the booth which is occupied by the part as it is carried through on the conveyor. Once set up, the gun is turned on and the spray painting operation proceeds automatically. The important point is that in order for this system to work, parts must be properly aligned on the conveyor hanger. Even a slight shifting or tilting may put some of the part surface outside the area covered by the spray pattern. To overcome this shifting the company placed two men outside the paint booth to adjust the parts so they were aligned correctly. Even so, many were still out of position

when they reached the booth.

The base half of the scale case has no openings large enough for the pin. So a set of springs was developed, which clipped on to the hanger frame. When the inner side of the base was attached to the hanger, spring tension held the part in place. This worked fine except for the fact that the company manufactures six different models of bathroom scales, and each model is a different size. As a result, adjusting the springs so they would apply the proper amount of tension to each base was practically impossible.

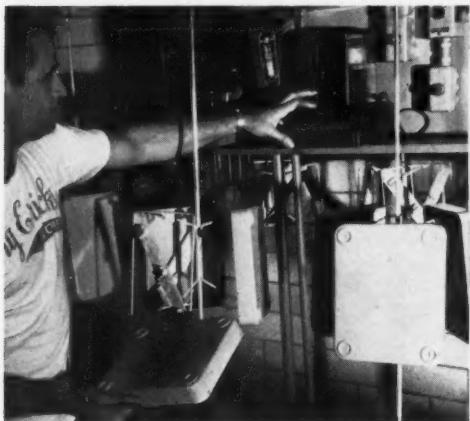
With the parts dropping off the line and shifting out of position, a total of eleven men had to be stationed at various points to see that the parts were processed. It was an expensive system and left much to be desired.

One change in the system has eliminated this handling headache, cut labor costs approximately two-thirds, improved product quality and reduced the labor force from eleven to four.

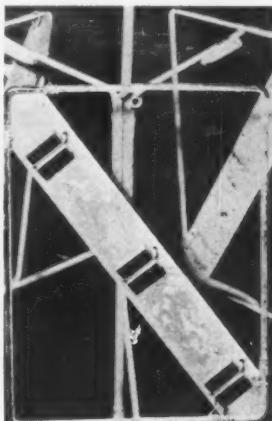
The company installed a new 875 foot overhead monorail conveyor system, but instead of pins and springs on the hangers, they used magnets. The magnets, approximately an inch square and  $\frac{3}{4}$  inches deep, were installed in groups of three on a brass strip that runs diagonally across the face of each rectangular hanger frame.

The various parts, regardless of size, are held firmly in place throughout the length of the system by magnetism. Loading time has been reduced 40 per cent.

By cutting operation costs through the use of these magnets, the company has saved the equivalent of four times its original investment for the conveyor.



PERMANENT MAGNETS, used on the hangers, have enabled Borg-Erickson to cut conveyor loading time 40 per cent. A close up of the hanger and magnets is shown at left. Another time saving device is an inter-com system that connects the inspection department and other departments.



# Can You Use Live Storage?

By Norman M. Sullivan\*

CONVEYORIZED rack and traveling lift handle 300-lb. cartons of yarn stored to ceiling on plywood pallets. Carton being removed rolls on lift's transfer section.



New techniques now make it practical and economical for companies of any size to gain the multiple advantages inherent in conveyorized stocking of materials, parts, and products.

WHENEVER an item is stored, sooner or later it must be found, selected and removed. By definition, that's order-picking. It is basic that the more orderly, convenient and accessible your storage system, the quicker the order picking. Live storage is one of the best ways to get the most efficient storing methods in these respects.

New live storage techniques make it practical and economical for companies of virtually any size. This is not to say that live storage is a sure cure for all kinds of order-picking, storage and warehousing problems. Like the pallet, the lift truck and the overhead crane, live storage has its place, its area of greatest efficiency and its limitations.

Here are a few questions that will help you judge whether live storage is right for you:

1. Will the items to be stored handle on a conveyor? On pallets?
2. Is there a variety of items?
3. Is there a reasonable quantity of each item?
4. Is there a fair amount of turnover?
5. Do complex selections have to be made? (Pick-

ing many different items from storage at one time.)

If you answer "yes" to most of these questions, chances are you can use live storage. Here's how you'll benefit:

**No Wasted Movement:** A very easily measured result. Do order pickers walk hundreds of feet just to select a few items? Then, chances are live storage will cut costs tremendously. Because items will be stored closely together. Other methods require much more space between individual items, need considerably more aisles for access, and naturally, require far more actual walking. One further live storage advantage is that racks are filled at the other end, eliminating a traffic problem.

**Orderliness.** This has to do with finding the item. How much time do order pickers spend deciding which item to pick first—or walking around looking for an item? This wasted time can run into a lot of money. With live storage, racks can be indexed, just like a filing system, and so practically no hunting time is needed. Further, more frequently called-for items can be stored in the most convenient place, and close together for efficiency. Besides saving time, the resulting improvement in morale can, in itself, be an important factor in overall costs.

Another benefit of orderliness is first-in-first-out. With live storage items are removed in the same order as they were put in—automatically and without possibility of error. This means less supervision, another cost consideration that cannot be overlooked. In addition, it makes inventory-taking a simple process of counting empty spaces in a rack.

**Utilization of Cube:** By putting aisle space to work and using wasted overhead space, live storage racks can often increase the usable cube of a given

(More on next page)



▲ STAGGERED tiering makes it easy to select items in cartons of paint distributor who moves 20-22 tons daily. Atop live rack is pallet storage.

◀ PICKING small boxes of fasteners from containers made mobile by rollers. Truck has platform controls. Note narrow aisles required.

\* Mr. Sullivan is Manager, Pre-Engineered Div., Alvey-Ferguson Co., Cincinnati, Ohio



IN DRUG WAREHOUSE, conveyorized picking lines feed belt conveyor running right angles to rack.



COMPLEX ORDERS requiring large supplies of each item are vastly simplified by compact live rack.



ADJUSTABLE in width and capacity, live storage assures provision for seasonal & fashion variations.



FIFTY PERCENT CUT in walking came from gravity fed chutes at Johnson & Johnson shipping center.

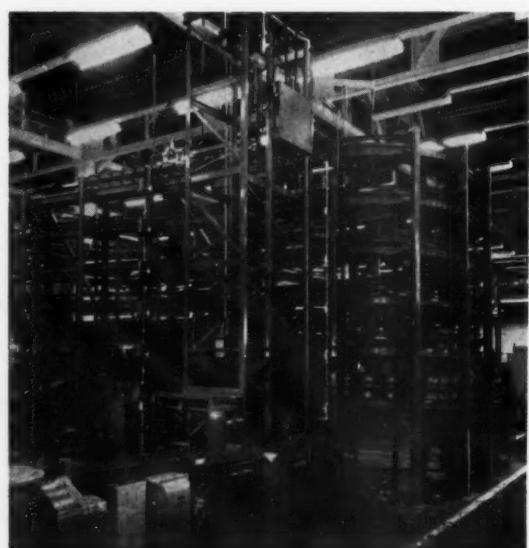
## CAN YOU USE LIVE STORAGE? ... Continued

area by 100 percent or more. There are here, of course, practical considerations that have to be carefully studied. If a rack is higher than a man's reach, access to upper decks must be provided. This might be a stepladder, catwalk, mechanical device, or even automatic push-button unloading of lanes. Big factors here are frequency of selection and cost of cube. Where these are high, you'll save with mechanical or automatic unloading. In other cases, it may be more practical to limit rack height and use available floor space—with the possibility of installing more racks overhead at a later date.

Now, let's see what's being done with live storage today.

**Storage For Selective Finishing:** In the kitchen cabinet industry, mass-produced units have to be painted different colors to order. Quick service, of course, can mean the difference between sale and no-

*(Continued on page 122)*



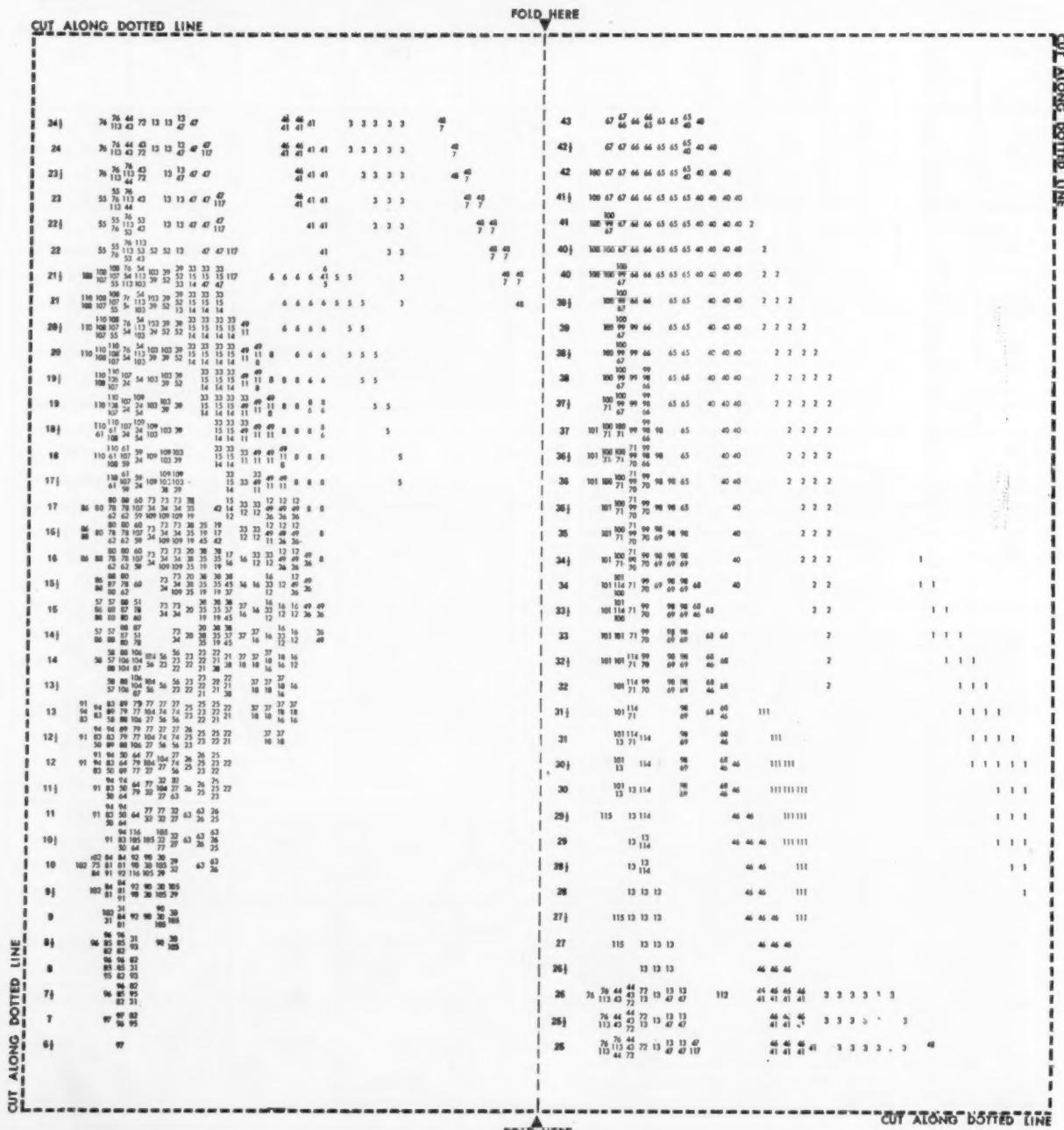
SPIRAL rack of roller conveyor, stocked by hoist, feeds tractor parts, upon demand, to machine shop.

# Speeds And Capacities For Materials And Belts

Belt Width	Weight per Cu. Ft. of Material	CAPACITY IN TONS PER HOUR										Cross-Section of Load Square Feet	Cubic Feet per Hour @ 100 F.P.M.	Cubic Yards per Hour @ 100 F.P.M.	Bushels per Hour @ 100 F.P.M.			
		Belt Speed—F.P.M.																
		100	150	200	250	300	350	400	450	500	550	600						
14	30	9	14	19	24	28	—	—	—	—	—	—	.108	648	24	315		
	50	16	24	32	40	47	—	—	—	—	—	—						
	75	24	35	47	60	71	—	—	—	—	—	—						
	100	32	47	63	79	95	—	—	—	—	—	—						
	125	40	60	80	100	120	—	—	—	—	—	—						
16	150	47	71	95	120	140	—	—	—	—	—	—	.140	840	31	400		
	30	13	19	25	31	38	—	—	—	—	—	—						
	50	21	31	42	52	63	—	—	—	—	—	—						
	75	31	47	63	79	94	—	—	—	—	—	—						
	100	42	63	84	105	125	—	—	—	—	—	—						
18	125	52	78	105	130	155	—	—	—	—	—	—	.180	1070	40	520		
	150	63	94	125	155	190	—	—	—	—	—	—						
	30	16	24	32	40	48	56	64	—	—	—	—						
	50	27	40	53	67	80	94	105	—	—	—	—						
	75	40	60	80	100	120	140	160	—	—	—	—						
20	100	53	80	110	135	160	190	215	—	—	—	—	.225	1350	50	650		
	125	67	100	135	170	200	235	270	—	—	—	—						
	150	80	120	160	200	240	280	320	—	—	—	—						
	30	20	30	40	50	60	70	80	—	—	—	—						
	50	33	50	67	83	100	115	135	—	—	—	—						
24	75	50	75	100	125	150	175	200	—	—	—	—	.330	2000	73	960		
	100	67	100	135	165	200	235	265	—	—	—	—						
	125	83	125	165	210	250	290	335	—	—	—	—						
	150	100	150	200	250	300	350	400	—	—	—	—						
	30	29	44	59	73	88	105	120	130	145	—	—						
30	50	49	73	98	120	145	170	195	220	245	—	—	.530	3200	118	1540		
	75	73	110	145	185	220	255	295	330	365	—	—						
	100	98	145	195	245	295	345	390	440	490	—	—						
	125	120	185	245	310	370	430	490	550	610	—	—						
	150	145	220	295	365	440	515	590	660	735	—	—						
36	30	47	71	95	120	140	165	190	215	235	—	—	.780	4700	173	2260		
	50	79	120	160	195	235	275	315	355	395	—	—						
	75	120	175	235	295	355	415	470	530	590	—	—						
	100	160	235	315	395	470	550	630	710	790	—	—						
	125	195	295	395	490	590	690	790	890	980	—	—						
42	150	235	355	470	590	710	825	945	1065	1180	—	—	1.085	6500	241	3120		
	30	70	105	140	175	210	245	280	315	350	385	420						
	50	115	175	235	290	350	410	465	525	585	640	700						
	75	175	260	350	435	525	610	700	790	875	960	1050						
	100	235	350	465	585	700	815	935	1050	1160	1280	1400						
48	125	290	435	585	730	870	1020	1170	1310	1460	1600	1750	1.460	8750	325	4200		
	150	350	525	700	875	1050	1225	1400	1570	1750	1920	2100						
	30	98	145	195	245	295	345	390	440	490	540	585						
	50	165	245	325	410	490	570	650	735	815	900	980						
	75	245	365	490	610	735	855	980	1120	1350	1470	—						
54	100	325	490	655	820	985	1150	1310	1480	1640	1810	1970	1.900	11400	422	5500		
	125	410	610	810	1020	1220	1430	1630	1840	2040	2240	2450						
	150	490	735	980	1220	1470	1710	1960	2200	2450	2690	2940						
	30	130	195	265	330	395	460	525	590	655	720	790						
	50	220	330	440	545	655	765	875	985	1090	1200	1310						
60	75	330	490	655	820	985	1150	1310	1480	1640	1810	1970	2.400	14400	533	6950		
	100	440	655	875	1095	1310	1530	1750	1970	2190	2410	2630						
	125	550	820	1090	1370	1640	1920	2190	2460	2740	3010	3280						
	150	655	985	1310	1640	1970	2300	2630	2950	3280	—	—						
	30	215	325	430	540	650	755	865	970	1080	1190	1300						
60	50	360	425	570	710	855	995	1140	1280	1420	1560	1710	2.400	14400	533	6950		
	75	440	810	1080	1350	1620	1890	2160	2430	2700	2970	3240						
	100	720	1080	1440	1800	2160	2520	2880	3240	—	—	—						
	125	900	1350	1800	2250	2700	3150	—	—	—	—	—						
	150	1080	1620	2160	2700	3240	—	—	—	—	—	—						

It's easy to make your own . . .

# Slide Rule To Determine



# Best Pallet Patterns

**I**T'S ONE THING to devise a plan to save space in warehouses, trucks or rail cars. Passing it along to the man on the job in a form he can use is something else again.

The Navy's Bureau of Supplies and Accounts has done both. Key to its system for packing 'em tight as sardines and close-fitting as jig-saw puzzle pieces is a vest-pocket slide rule developed by the Bureau's Bayonne, N. J., Research and Development Facility.

The container selection slide rule gives a quick and easy guide to high efficiency patterns for storing commonly used container sizes (from 5 to 21½ inches wide, 6½ to 43 inches long) on 40 x 48 inch pallets, allowing for an overhang to 43 x 52 inches. With a few minutes' instruction, any employee can use the plastic rule. First, he sets the container's width and length on the rule, then checks it against 117 patterns shown. If it fits one, he's guaranteed 80 percent or higher efficiency in his pattern.

The rule will work backwards too. From known patterns, you can select optimum size containers for the Navy's standard 40 x 48 inch basic "building block".

Basis for the rule's development is that space-saving starts on the pallet. Figuring only a 10 percent average gain, the slide rule's possible savings stack up like this:

Truck: You can pick up an added 1350 pounds

and 45 cubic feet in a standard 24-foot highway truck loaded two pallets wide, one high and five along the length. This assumes an average net of 45 cubic feet per pallet, an average density of 30 pounds per cubic foot.

Boxcar: A standard 50-foot car will yield an extra 3½ tons and 230 cubic feet of space with pallets loaded two high, two wide and 13 along the length. This assumes an average net of 45 cubic feet per pallet, average density of 30 pounds per cubic foot.

Warehouse: You can find 60,000 more cubic feet and 900 additional tons in a 200 x 600 foot warehouse, assuming a 50 percent floor-area utilization, 10-foot stacking height and an average density of 30 pounds per cubic foot.

The rule is being distributed to all Navy installations where palletizing is done. Civilians can't get it, but the Navy Department says you are welcome to make your own. You can also get the complete technical report on which the slide rule patterns were based. It includes six master selection charts covering 172 patterns in 20,000 sizes with area efficiencies of 80 percent or better. It's publication number is OTS PB-111845, titled *Container Size and Pallet Pattern Selection Criteria for Use on 40" x 48" Pallets*. Order it (at \$3 a copy) from the Office of Technical Services, Department of Commerce, Washington 25, D. C.

## Instructions

1. The section shown on page 66 is the slide. Carefully remove it from the page by cutting along the outside lines.
2. Fold it precisely along the dotted line down the center so that the small numbers are on the outside.
3. Coat both halves of the inside with thin rubber cement (or equal).
4. Cut a piece of thin cardboard  $\frac{1}{8}$  to  $\frac{1}{4}$  inch larger than the sandwich (the size of one side of the slide), and coat it with the cement.
5. Lay the sandwich open and put the edge of

the cardboard precisely along the crease. Then work the two sides onto the cardboard, closing the sandwich as you go. (Extreme care is required here to avoid wrinkles in the paper as it goes onto the cardboard.)

6. If this has been done properly, the dotted lines will line up all around. Trim to the dotted lines with a sharp knife and straight edge.
7. Finish edges with strips of pressure-sensitive cellophane tape. Again, take care to make a smooth surface for the full height of the slide.

Outer, Fixed Parts Are On The Following Page

CUT ALONG DOTTED LINE

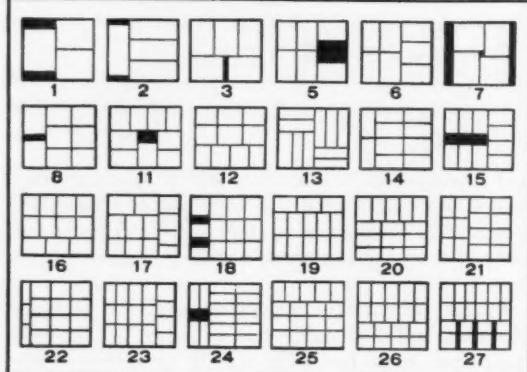
FOLD HERE

CUT ALONG DOTTED LINE

## Container Selection SLIDE RULE For Interlocking Patterns

For use on 40"x48" Pallet  
(With Allowable Over-hang to 43"x52")

U.S. NAVAL SUPPLY RESEARCH & DEVELOPMENT FACILITY  
BAYONNE, N. J.

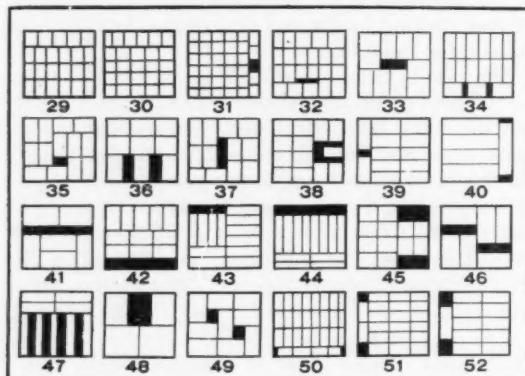


### CONTAINER WIDTH

Container 5 1/2 6 1/2 7 1/2 8 1/2 9 1/2 10 1/2 11 1/2 12 1/2 13 1/2 14 1/2 15 1/2 16 1/2 17 1/2 18 1/2 19 1/2 20 1/2 21 1/2

### CUT OUT

Length



### INSTRUCTIONS

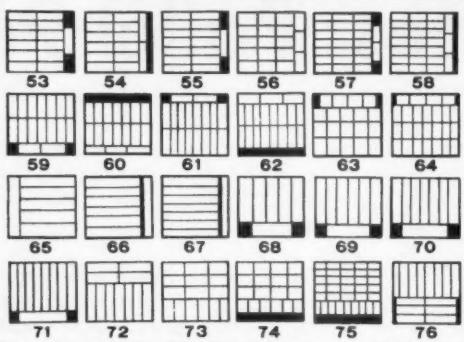
To determine best pallet pattern, find width in inches to nearest  $\frac{1}{8}$ ", slide rule to required length in nearest  $\frac{1}{8}$ " and read pattern number. Where more than one pallet pattern is listed, the listing is in decreasing area efficiency (use top number whenever possible). Where no pattern is listed, the area efficiency is below 80%.

SEE 839

FOLD HERE

CUT ALONG DOTTED LINE

## Container Selection SLIDE RULE For Interlocking Patterns

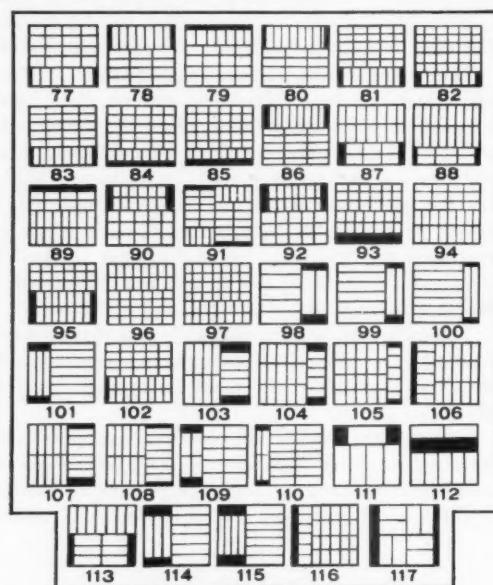


### CONTAINER WIDTH

Container 5 1/2 6 1/2 7 1/2 8 1/2 9 1/2 10 1/2 11 1/2 12 1/2 13 1/2 14 1/2 15 1/2 16 1/2 17 1/2 18 1/2 19 1/2 20 1/2 21 1/2

### CUT OUT

Length



THIS SLIDE RULE IS PREPARED FROM DATA REPORTED  
IN NSR&DF ENGINEERING REPORT NO. 2.5001 (REPORT NO. 2.)

### Instructions . . . Con't.

1. This is the fixed part of the slide rule. As in 1 and 2 on previous page, carefully cut around outside lines to remove entire section from the page.
2. Cut thin sheet of cardboard so that it projects  $\frac{1}{8}$  to  $\frac{1}{4}$  inch beyond all borders.
3. Coat cardboard with thin rubber cement.
4. Coat back of slide rule sheet with cement.
5. Lay slide rule on cardboard. Take your time. Be careful to avoid wrinkles.

6. Trim precisely along outside dotted lines.
7. Cut horizontal center slots and square holes, using sharp-pointed knife.
8. Lightly score along vertical dotted line, and fold so that data is on outside.
9. Close sandwich and finish edges with cellophane tape.
10. Insert slide previously finished. Trim edges of slide, if required, very slightly to smooth action.

Handling in and out of storage can be a problem. Getting the truck in position to deposit the load in the rack can require several turns. Here's how one company solves this problem a truck that rides rails and floors and unloads with a powered attachment.

## Special Truck Simplifies Storage

**S**TORING heavy crates and cartons of photographic film at the Eastman Kodak Company is an easy operation. Film must be available when its needed and handling must be quick and economical. These are accomplished by a special lift truck that also simplifies the operation.

The truck scoots from department to department and up and down main aisles on rubber tires just like most lift trucks. But in the storage department it takes to rails and makes like a locomotive. These rails keep the truck in perfect alignment with the storage rack and provide perfect positioning for loading.

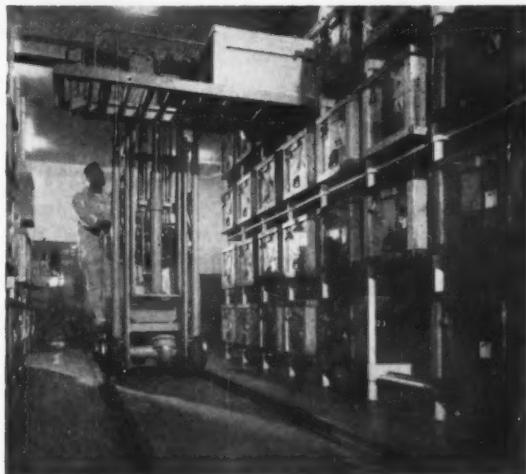
A side loading and unloading attachment with power rollers makes it possible to place the heavy boxes in the racks, or to remove them without angling the truck.

This attachment is actually a side-shifting, powered, roller conveyor. To load, the conveyor is moved laterally until its end roller is near the first roller on the rack. The conveyor is then started and the load transferred to the rack. A back-stop stops the load and stalls the truck's conveyor so that it is possible to grab the edge of the load with the last roller on the truck when removing loads from storage.

The operation is simple and film gets where it's needed, when it's needed.



FORK TRUCK riding rails is in perfect position to deposit the heavy load easily in an empty storage rack.



SIDE-SHIFTING, powered, roller conveyor, controlled by operator, transfers the load directly to the rack.



ATTACHMENT is moved away from the rack after the load is deposited and truck returns for another load.

# Improved Storage Doubles Productivity

... and no space, manpower or machinery has been added

**E**IGHT PRINCIPLES have been applied to production at Rapids-Standard Company to gain major objectives common to most manufacturing firms—to lower costs, gain more productive space, and maximize return on equipment investment.

In applying these principles, the company—referring to itself as “the shoemaker who wears his own shoes”—uses its plant not only for production but also as a proving ground for new material handling ideas. It has also adopted a new term, “Technics” which it defines as: “The art of coordinating material handling through the management arts to open new opportunities for profit.” Here’s how this is applied to the eight principles as explained (in italics) by Bert

Woldring, Director of Product and Market Development.

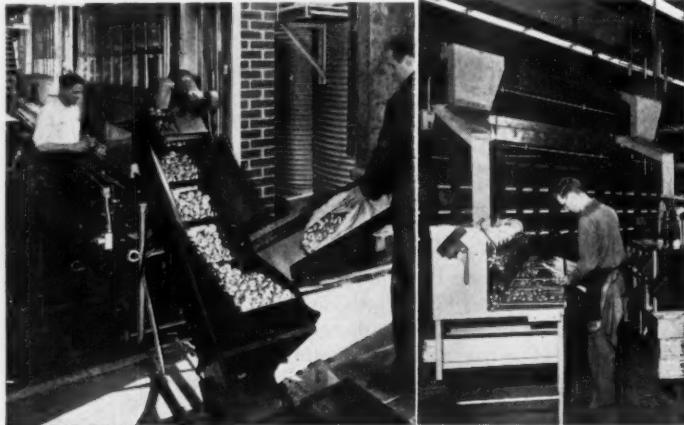
#### **Inventory Control At Point Of Use:**

*The value of central stores has been overemphasized. There are always going to be some items that will remain in central stores, but, for the most part, purchased inventory can be received and placed right where it will be used. This saves one storage spot, one movement of material, and the paper work involved in the entire transaction.*

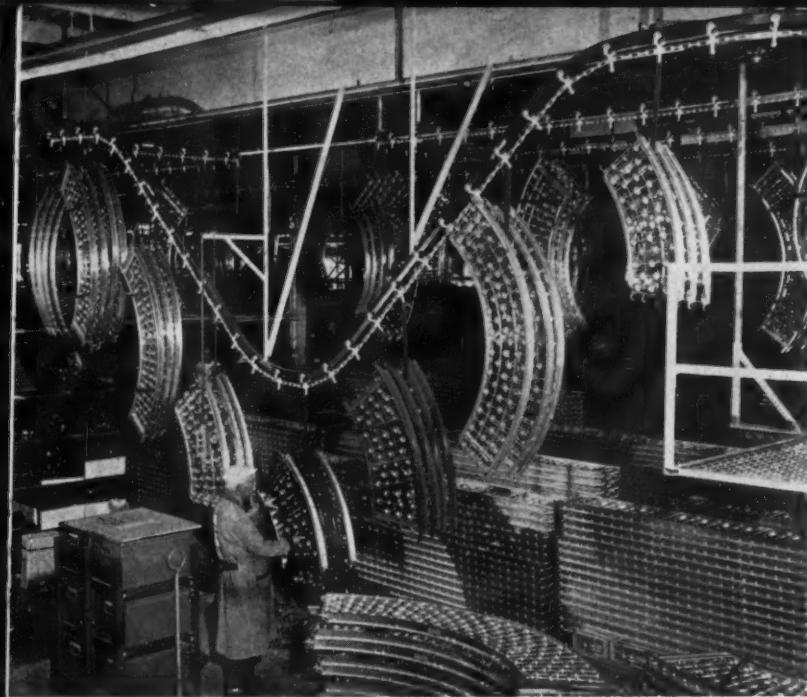
By following this principal, the central stores department was reduced by some 4000 square feet. To



LIVE STORAGE, for electric motors, gives broadest possible inventory selection with least amount of frontal space being used.



CONVEYOR systems move incoming wheels to silos, then to each work station. Overhead belt units separately store steel and aluminum wheels. Workers can control flow of wheels from each conveyor.



OVERHEAD MONORAILS accumulate conveyor curve inventory. Four separate supply lines converge at common selection center.

gain maximum use of floor space at point-of-use positions, extensive use is made of live storage racks. Good can be fed to them from main aisles so that they can flow through to work areas.

**Straight-Line Flow:**

*To avoid back-tracking, the plant was rearranged to bring operations and departments as close together and in as straight a line as possible.*

This is quite an accomplishment, the company points out, when you consider that production here is essentially a "job shop" type of operation.

In many areas flow lines don't exist, except on

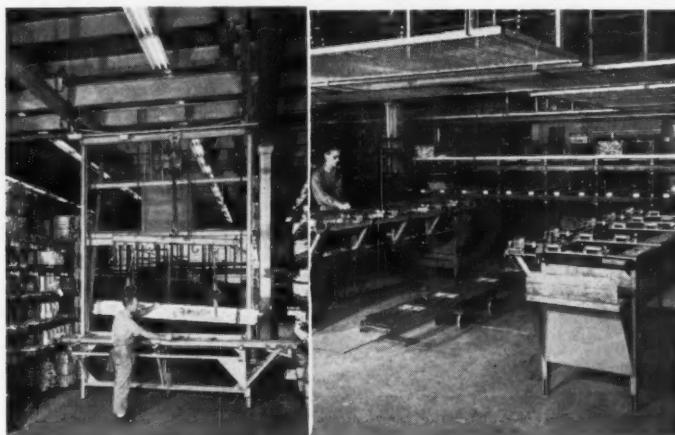
paper, because material flows from operation to operation without intermediate handling.

Applying this principle conserved floor space, reduced movement of men and materials, and saved all the time previously lost in waiting for men or equipment just to move goods.

**Positioned Inventory:**

*Live storage gives broadest possible selectivity to inventory with least amount of frontal area. It also provides the same convenience in reaching for inventory regardless of the amount on hand.*

*(More on next page)*

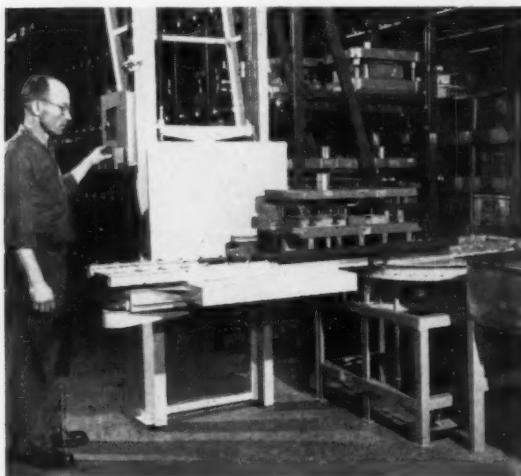


STORAGE RACKS are arranged so that roll-formed pieces are put in storage on one side of the rack, and are removed from the rack on the other side at assembly. Unnecessary handling is eliminated.

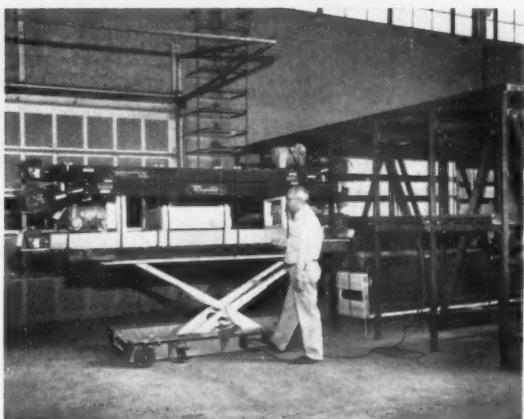
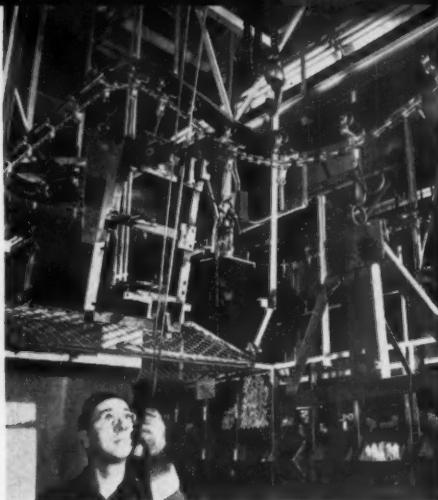


POINT OF USE STORAGE has increased production space by eliminating central warehousing area. Parts are always available.

IN WELDING DEPT., right, consolidation of jigs and fixtures on overhead conveyor eliminated lost motion, saved space and time. Jigs are indexed; when welder needs one, he pushes a control button for delivery.



CONVEYORIZED DIE STORAGE, above, works with overhead-mounted transfer and rotating inspection table to eliminate manual labor and reduce floor area by about two-thirds. Dies move in and out of 91 hatch openings by dial & push-button controlled operation.



HYDRAULIC LIFT TABLE handles complete units into live storage rack incorporating roller conveyor. Top of rack is served by overhead crane. Shipping department now has room and facilities to stock and handle larger inventory of finished equipment and accessories.

## Improved Storage . . . Con't.

As an example, live storage racks, four-tiers high provide ample space for a two-week supply of motors at assembly stations.

From two to eight motors (depending upon size) are stored on thin, steel pallets. As a pallet is removed, the one behind, acting as a moving shelf, rolls forward to bring the next motor into position for assembly.

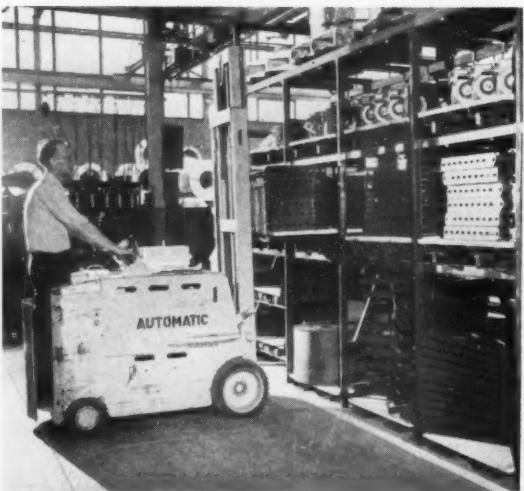
Up to 24 motors at a time are delivered by a lift truck equipped with a 3-deck transfer device working at right angles to the truck's travel. This is essentially a small live-storage rack with interlocks to mesh with the larger, permanent racks. The operator can load or unload any of the 3 levels, and do it in a 5-foot aisle.

Because motors are delivered unpacked, ready for installation, time formerly lost while assembly people searched for and unpacked motors has been saved.

Another application of positioned inventory occurs in combination with the live storage of great numbers of skate wheels. These are stocked in silos next to the outside wall of the building.

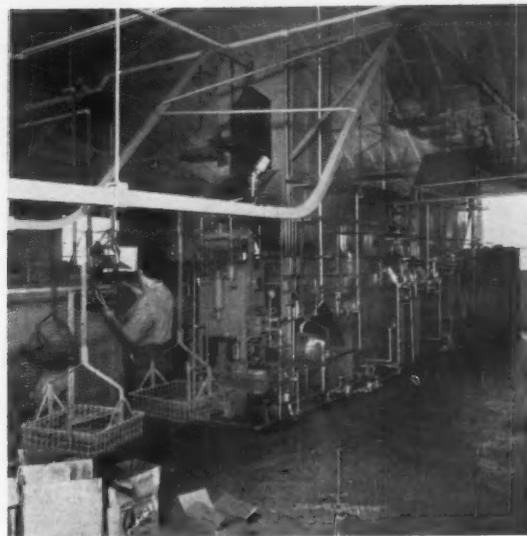
Wheels are received in burlap bags, inspected, and fed to a horizontal belt conveyor. From this they are carried by cleated belt to one of nine silos, each designed to hold an average truckload, or 100,000 wheels. Silos are filled from the top and feed out by gravity from the bottom.

*(Continued on page 114)*



EXPERIMENTAL operation in pallet area involves new pallet constructed of wood with steel base. Units so far have proved to be sturdy and easily handled. When loaded with variety of parts, they can be stacked side-by-side within any standard framework.

# Continuous Flow Speeds Brazing



OVERHEAD CONVEYOR is manually loaded and carries parts through the degreaser (shown on right).

**C**OPPER furnace brazing is a fast, uniform, clean, and cheap way to fabricate products in volume. At the Superweld Corporation, one of the largest copper furnace brazing plants in Southern California, a power operated conveyor enhances these advantages by minimizing handling and providing rapid and orderly processing of all components entering the shop.

When parts are received, two fork trucks move them to a drop on the conveyor line that carries through the degreaser. Metal baskets hang from the conveyor (overhead track). The incoming parts are manually stacked in the moving baskets.

A central panel controls the conveyor's speed through the hot trichlorethylene spray and vapor chambers in the degreaser.

After degreasing, parts are moved manually from the overhead conveyor to a roller conveyor that passes through the brazing furnace. Test runs, special jobs,

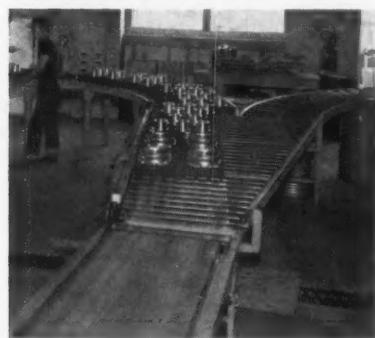
or parts requiring a different temperature are conveyed through a small furnace. No matter which furnace they go through, when they come out the parts converge on a common conveyor line.

From this point the inspector can oversee the loading operations and also inspect the finished parts.

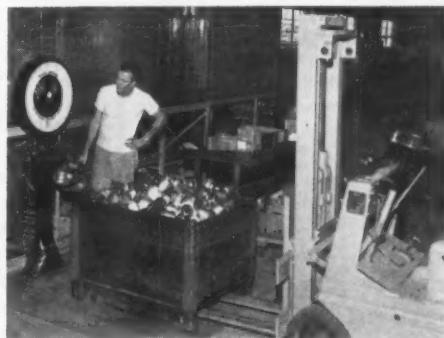
After inspection, fork trucks remove the parts from the conveyor and place them on a one-ton floor scale next to the inspection station. Here parts are weighed and then moved to shipping.

This handling arrangement makes it possible to receive, process, inspect, and ship parts without "in-process" storage.

The degreasing system was originally laid out so far away from the furnace system that moving just one order from one line to the other cost about \$75 in labor alone. The new arrangement eliminates this cost and makes production scheduling flexible.



PARTS converge on a roller conveyor where they are inspected. Fork trucks carry them to a one-ton scale where they are weighed and then shipped.



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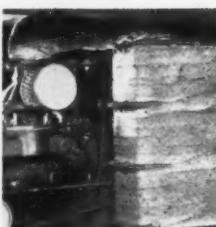
Look for local dealer under *Shelving* in the yellow directory. Write to factory for "Shelving Reference Manual."



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74



LIFT TRUCKS, powered with LP-gas, transport refrigerated dough products in and out of storage. Catalytic exhaust is shown left.

## Odorless Operation With LP-gas

LP-GAS is now a common fuel for indoor and outdoor equipment. It is so odorless that Federal regulations require that an odorant be added to it before it can be sold. The result can be an unpleasant odor. It is especially noticeable on industrial trucks during warm-up period.

The odor can be troublesome, especially when trucks must operate in confined areas.

An industrial truck using LP-gas does not produce this odor in any great quantity if the engine is working properly. However, malfunctions such as faulty carburetor adjustment could increase the percent of odor until its very noticeable. Normal preventive maintenance should avoid this.

If that doesn't work, try replacing the muffler with a catalytic exhaust which not only reduces the odor but also reduces the exhaust of objectionable hydrocarbons.

These catalytic exhaust purifiers can be used on almost any engine. The basic unit of the system is a cartridge of evenly spaced porcelain rods coated with an oxidation catalyst. Depending on the size of the engine, two, three, or more units are placed in series in a metal container. As the exhaust gases pass over the porcelain rods, the catalyst oxidizes the hydrocarbons, reduces the odor, and produces harmless carbon dioxide and water vapors.

Where industrial trucks powered with internal combustion engines are used to handle odor-absorbing food and other easily-contaminated products, the catalytic exhaust can serve two purposes: Operator and employee comfort is improved by reducing the odor, and the chance of contamination is lessened by reducing objectionable hydrocarbons.

Information courtesy *Oxy-Catalyst, Inc.*

FLOW

# Problems Pointed out in Study of Loading Docks

**I**N a recent study of twenty companies, it was found that many problems existed on their loading docks. And the important factor pointed out in this study was the lack of knowledge of these problems by many managers.

• The expense of handling materials is a main part of the over-all cost of producing and marketing products. Many phases of materials handling are closely watched, and the latest equipment is used. For example, various kinds of power equipment move large quantities of goods from place to place within the plant. Elaborate conveyor set-ups are installed to quickly and efficiently keep things on the move. Yet, when it comes to the loading dock, where incoming materials are unloaded and the finished product is loaded on the carriers, some of the most outmoded and obsolete equipment is still in use.

To help point up some of the loading dock shortcomings, found in the recent study of twenty companies, a list of problems was compiled. This list must be recognized as general because each company does have specific problems. But, in any event, by reading over the following list, you will get a starting place in the project of increasing the efficiency of your individual loading dock.

**1. The necessity of pulling a fork lift . . . or other power equipment . . . out of regular use to move a big heavy steel plate that is being used as a dock plate is one of the time-wasting maneuvers consistently in practice.**

**2. In cases where power equipment is not used, extra man-power is needed to move the heavy steel plate used as a dock plate. This takes up to four men in many cases, again wasting valuable time and man power.**

**3. When dock personnel have to move the heavy, cumbersome steel plate by hand, many injuries occur—such as crushed feet, ruptures, skinned legs and maimed fingers and hands.**

**4. The steel plate is often not capable of handling the load capacity needed on many loading docks. When power fork lift trucks move over the plate, to deposit heavy loads in the carrier, the plate will give and buckle. The danger in this is the possibility of allowing the power lift truck to slip off the plate . . . as there are no side rails to prevent it from happening. That is especially true where there is a considerable distance to be spanned from the dock to the carrier.**

**5. By simply using a steel plate for a loading dock, there is no safe way to anchor it into position. When power lift trucks roll over it, the drive of the wheels will often spin the plate out from under the lift truck. This is especially true when there is an incline.**

**6. A make shift dock plate that is too short is often found. This makes it extremely dangerous and difficult to cross with heavy loads, especially where there is any degree of incline between the loading dock and carrier.**

**7. Dock plates of light metal are often in use. Of course, lighter metal will not stand the strain and hard use like heavier steel will over a period of time. And the load capacity of lighter metal is not as great.**

**8. Permanently positioned loading dock plates that can be raised and lowered are in operation on many loading docks. This type of dock plate has one great drawback. It cannot be moved from place to place.**

• There is a dock plate on the market that is engineered and designed to solve most of the above mentioned loading dock problems. It is called the ROLLWAY PORTABLE STEEL DOCK PLATE . . . and is manufactured by the Woodford Manufacturing Company, in Des Moines, Iowa.

The ROLLWAY is made from heavy, rugged steel and includes the unique feature of attached wheels and handles. One man can actually wheel the ROLLWAY in and out of position in a matter of seconds, even the sizes that weigh over 500 pounds. The wheels and handles are designed so that they can be folded completely out of the way when the plate is in use. Heavy, formed-steel side rails with slanted curbs prevent loads from running off the side. The floor of the plate is safety treaded, so that wheels of power equipment will not slip. It is shaped at both ends to be easy to roll on and off for various height differentials.

When in position, safety anchor pins can be put into place, eliminating the possibility of the ROLLWAY slipping.

• The ROLLWAY PORTABLE STEEL DOCK PLATE is made in many different sizes and load capacities. Further information is available without obligation by writing to the Woodford Manufacturing Company, 1619 Delaware, Des Moines, Iowa.

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Handling small steel stampings can be expensive. This company cut costs because parts are handled from punch press to the customer's dock or . . . .

**From Start To Finish  
With One Container**

Production, inspection, storage and shipment of small steel stampings can involve several handling operations.

Ohio Valley Tool & Die Company found that this handling was expensive and sometimes difficult. Here's why: Fork trucks and home-made boxes were used to handle the parts. These boxes worked fine but didn't last very long; and when they fell apart the stampings were scattered, lost and damaged. (This was expensive.)

Someone had to pick them up, put them in another box, repair the damaged and replace the lost ones, and hope it didn't happen again.

The company switched to collapsible metal containers. The handling problem was solved. Customers are happier because they get their stampings faster and in good condition. The company is happy because container cost has been reduced 35 to 40 percent and overall handling is faster and easier.

*Photos courtesy  
Ackerman Mfg. Co.*

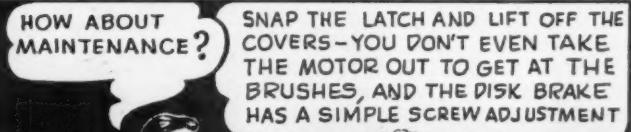


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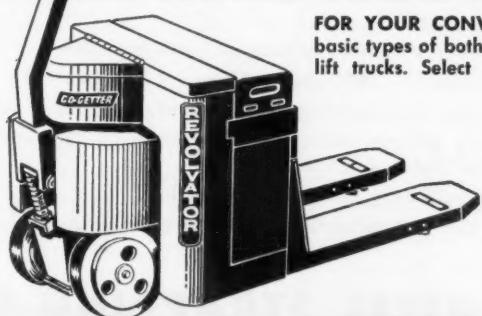
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BOTH BRAKES?

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- ... Tested and proved in  $1\frac{1}{2}$  years of actual service.

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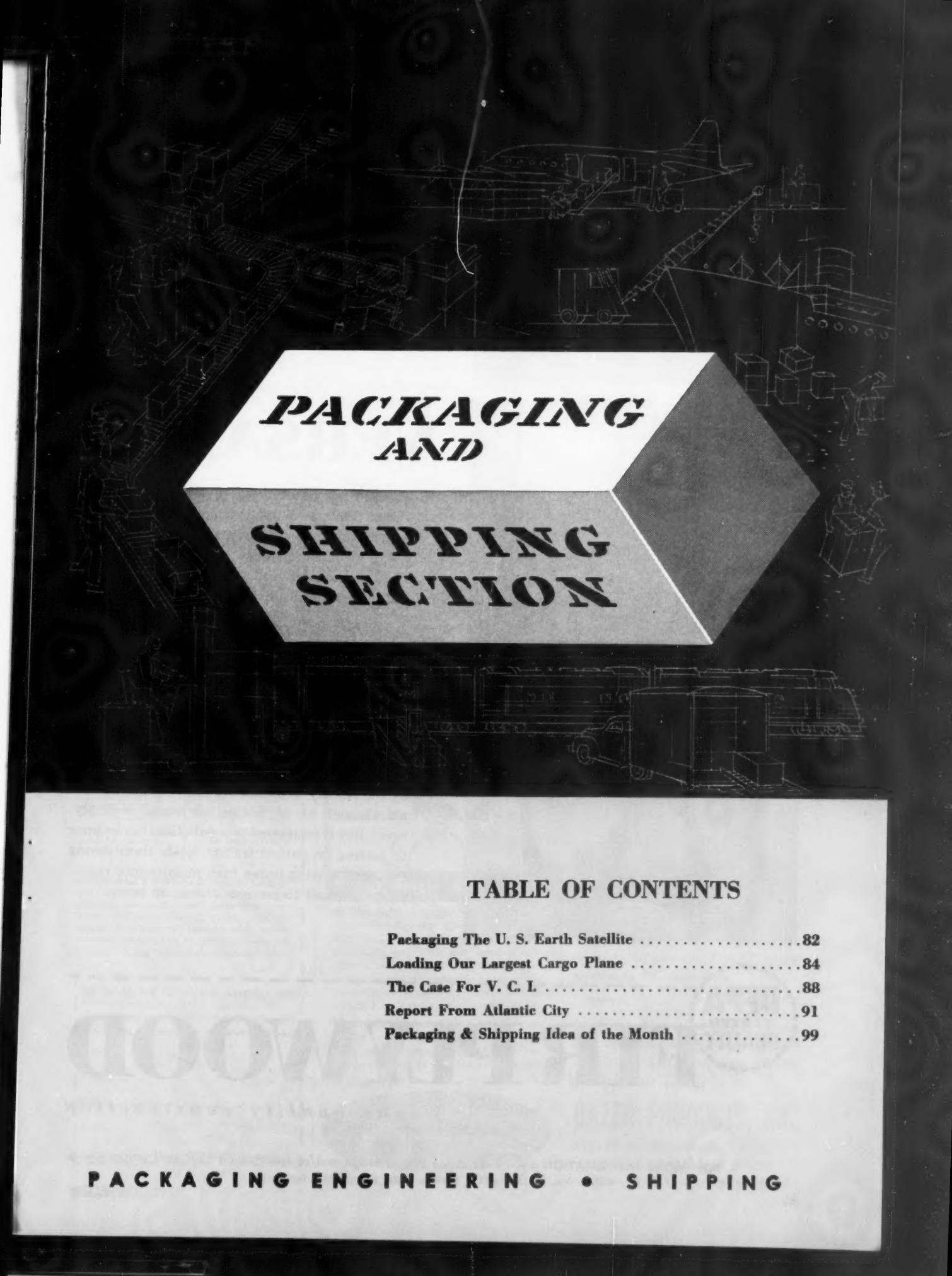
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# **PACKAGING AND SHIPPING SECTION**

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## STRONG

Fir plywood crates, used to ship bulky radar equipment to the DEW Line Project, provide the necessary strength and durability without excess weight. Crates are built of  $\frac{1}{2}$ -inch Exterior-type fir plywood over 2 x 4 shoring. Designed and built by International Packaging Corp., Tacoma, Wash.



## VERSATILE

Tobacco hogsheads of fir plywood have demonstrated these advantages: simplicity of construction, maximum re-use, savings in weight and storage space, reduction of waste in handling and repair. The hogsheads are collapsible, can be dismantled and returned to loading points for reshipment.



## LOW COST

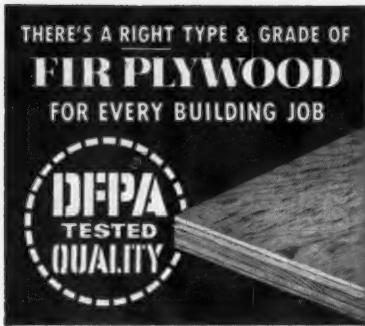
Annual savings estimated at \$5,000 are reported by the Keeney Truck Lines, Los Angeles, California, through use of "bottomless boxes" of fir plywood. Box is positioned over palletized bricks prior to loading on flatbed trailers, holds them during transport. Saving comes from maintenance reduction, compared to previous aluminum boxes.



# FIR PLYWOOD

*means quality construction*

FOR MORE INFORMATION about uses shown above, design and/or specification data, mail coupon →  
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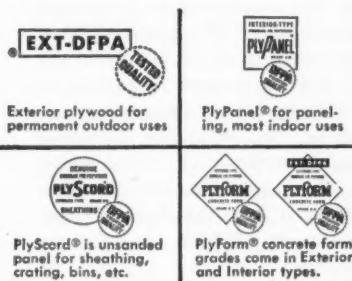


## 1. SPECIFY BY DFPA QUALITY TRADEMARKS

DFPA grade-trademarks appear only on plywood manufactured, inspected and scientifically tested under the DFPA quality control program. DFPA, Douglas Fir Plywood Association, is a non-profit industry organization devoted to product research, promotion and quality maintenance.

## 2. CHOOSE THE RIGHT GRADE FOR EACH JOB

Fir plywood comes in two types: 1. *Exterior* (waterproof glue for permanent exposure to water or weather); 2. *Interior* (moisture-resistant glue) for indoor uses, crating, sheathing, maintenance. Within each type are several grades — i.e., panels with one good side, two good sides. Most popular grades are shown below.



**SPECIALTY PANELS** include 1. *Overlaid Exterior plywood* (hard, smooth, abrasion-resistant fused resin-fiber surfaces) for siding, signs, tanks, concrete forms; 2. *Textured panels* with smart grooved, brushed or striated surfaces for fixtures, siding, special decorative effects.

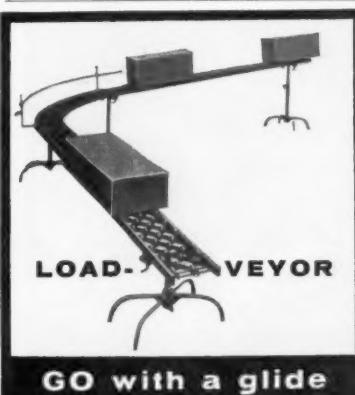
**DOUGLAS FIR PLYWOOD ASSOCIATION**  
Tacoma 2, Wash. (Good USA Only) Dept. 190

Please send basic fir plywood specification data.  
 Also send information about use of fir plywood  
for \_\_\_\_\_  
Name \_\_\_\_\_  
Firm \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_



Dr. E. V. Allen, left, president of the American Heart Association presenting the award to Mr. Hexter.

Chicago, October 27—The Gold Heart Award, highest honor of the American Heart Association, has been presented to Irving B. Hexter, President of the Industrial Publishing Corp. Presentation was made at the Association's Annual Dinner in the Hotel Sherman. Mr. Hexter originated Heart Sunday four years ago. He has served on the Heart Association's Board of Directors and Policy Committee and was, from 1954-56, its Secretary. He has been Board Chairman of both the Ohio State Heart Association and the Cleveland Area Heart Society.



on the lightest-weight steel conveyor available—the sturdy American LOAD-VEYOR. This portable conveyor has exclusive zig zag grids that support both sides of each ball-bearing wheel. Narrow packages ride smoothly between the side rails, or the conveyor sections can be inverted to handle overhanging loads.

LOAD-VEYOR, industry's Magic Carpet, is the most versatile, durable, and economical sectionalized conveyor you can buy. See it at your local distributor.

A product of



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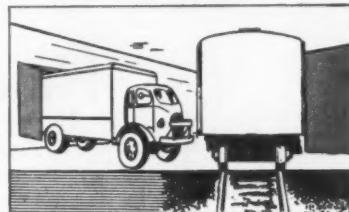
"#%/\*/"

... open that door •

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## DAZZO DOCK SHELTER STOPS THE ARGUMENT—



### SAVES YOU MONEY, TOO—HERE'S HOW—

Dazzo retractable dock door shelter provides a safe, dry, draft-free passageway between the door of your building and the door of the freight car or truck. Think what this means—

No rain damage to merchandise.  
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Dazzo anchors permanently on the building wall around the door, retracts in 10 seconds. Eight different models to fit every door.

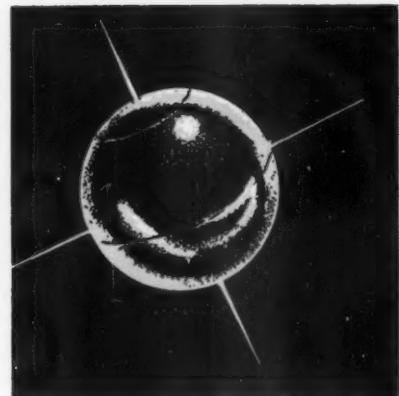
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Dept. FL, 152 Bleecker St., N.Y. 12, N.Y.

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One of the hottest topics of our time  
... There were some earthly problems too.

## Packaging the U. S. Earth



LAUNCHING INTO SPACE isn't the only transportation problem a satellite faces. The artificial moon has to get from the factory to the place where its guts (a number of highly sensitive instruments) are put in, then on to the launching site. In order to get there safely, it relies on a container that must protect it from the slightest shock in transit. This may not be the toughest packaging problem on record, but it ranks right up there with the best of them. To Brooks & Perkins, Inc., prime contractor who built several of the moons for the government, it was a problem that almost upset delivery

SATELLITE PACKAGERS Leach (left) and Pruneau (right) wrap artificial moon in cotton flannel. Satellite's polished surface can never be touched by workers' hands.

SATELLITE in fish net is tied to four sides, top and bottom of its wooden container. It is thoroughly protected from shocks in transit.

# Satellite



schedules, until a novel idea solved it.

Engineers at B&P were so busy building the magnesium spheres, they hadn't given much thought to how they would ship them. Then one day they were faced with the problem. Since nobody had ever shipped a satellite before, there was no precedent for the company to fall back on.

## A Touchy Problem

The requirements of the package were clear: it simply had to protect one of the most delicate, highly polished surfaces ever created. The satellite's magnesium skin (two hemispheres .028 inches thick) is a perfect mirror. The magnesium is successively plated with copper, silver, and gold, with repolishing in between. On top of these go thin (millionths of an inch) coats of chromium, silicon monoxide, aluminum, and silicon monoxide again. These coats protect the instruments from the extreme heat and cold encountered

in the satellite's flight through space. They also make the skin so delicate that contact, however slight, with any foreign material would probably ruin it. An example of its delicacy: workers must wear special flannel gloves when handling the spheres, because the oil from their fingerprints might etch into the surface.

Lester Leach, B&P's traffic manager, went to work to design a container. He first tried padding the globes with different types of cushioning, but no combination of container and cushioning could offer the protection he needed.

## Suspension Does It

Leach decided to try suspending the satellite inside a sturdy container, in such a way that it would not touch any of the sides. The principle was not entirely new; a somewhat similar system, using springs to suspend delicate loads, had been used by the armed forces. He ordered an experimental wooden crate, about a foot larger in each dimension than the diameter

of the satellite. One of the spheres was carefully wrapped in fine cotton flannel, then dropped into a fish net type cotton bag, which in turn was tied to the bottom and four sides of the crate. In order to tie it to the top, one board was nailed across the top after the bottom and sides of the fish net were fixed. The net was then tied to this board, and the rest of the boards nailed on, completing the package.

Only one question remained: would it work? While a number of B&P engineers stood by, Edmond G. Pruneau, foreman of experimental production, decided to find out. He calmly walked up to the crate and pushed it off the table onto the concrete floor. The container and its precious cargo were subjected to an impact far greater than any they would meet in transit. Said Leach later, "I almost had heart failure." But he should have had more confidence in the package he designed. It was undamaged, and so was the satellite inside.



**Air Force Reveals  
Handling System for . . .**

## **Loading Our Largest Cargo**

**A**N AMAZING new cargo plane and a rapid loading and tie-down system, "the first step in development of the air freight handling system of the future," has been unveiled by the Air Force.

### **The Plane . . .**

The huge Douglas C-133A turboprop cargo plane hauls greater loads on longer flights than any other

aircraft now in use. With loading space equal to five freight cars and average cruising speed of 273 knots, it has 2½ times the ton-knot capacity of its predecessor, the C-124C. The C-133A is a low-bed craft with a rear-end loading ramp designed to permit transfer of cargo to or from ground, truck-bed or loading dock. Light weight roller conveyor sections mounted on the floor speed up positioning of loads within the plane.

### **The loading and Tie-Down System . . .**

At Dover Air Force Base, transfers are made via a permanent wooden bridge extending from the terminal building loading dock to the airplane.

An interesting adaptation of the unit-load principle is the core of the system. Loads are built up on 8 x 10-foot panels of ¾-inch plywood instead of the usual pallets. They carry loads over floor-mounted roller conveyors from the dock, across the wooden bridge, directly into the plane.

To save time, the placement of each load, exactly as it will be in the aircraft, is pre-planned. An entire plane-load is prepared while the craft is en-route to Dover. When it lands, a tow-tractor backs it into position at the end of the bridge, the incoming load is pulled off and the new load is rolled on.

Aluminum roller conveyor sections in the plane were designed for flexibility. They are 10-feet long and eight inches wide and are held in position by quick connect-disconnect hold-down fittings which at-



**ROLLER CONVEYORS** on wooden bridge carry load into cargo compartment of plane. Since this photo was taken a fourth row of rollers has been added to eliminate drift of load to one side or the other. Heterogeneous unit-loads are built up on plywood sheets.

TOW-TRACTOR backs C-133A into position at end of wooden bridge. Loading ramp in underside of after section of the airplane lowers to provide level platform.

## Plane

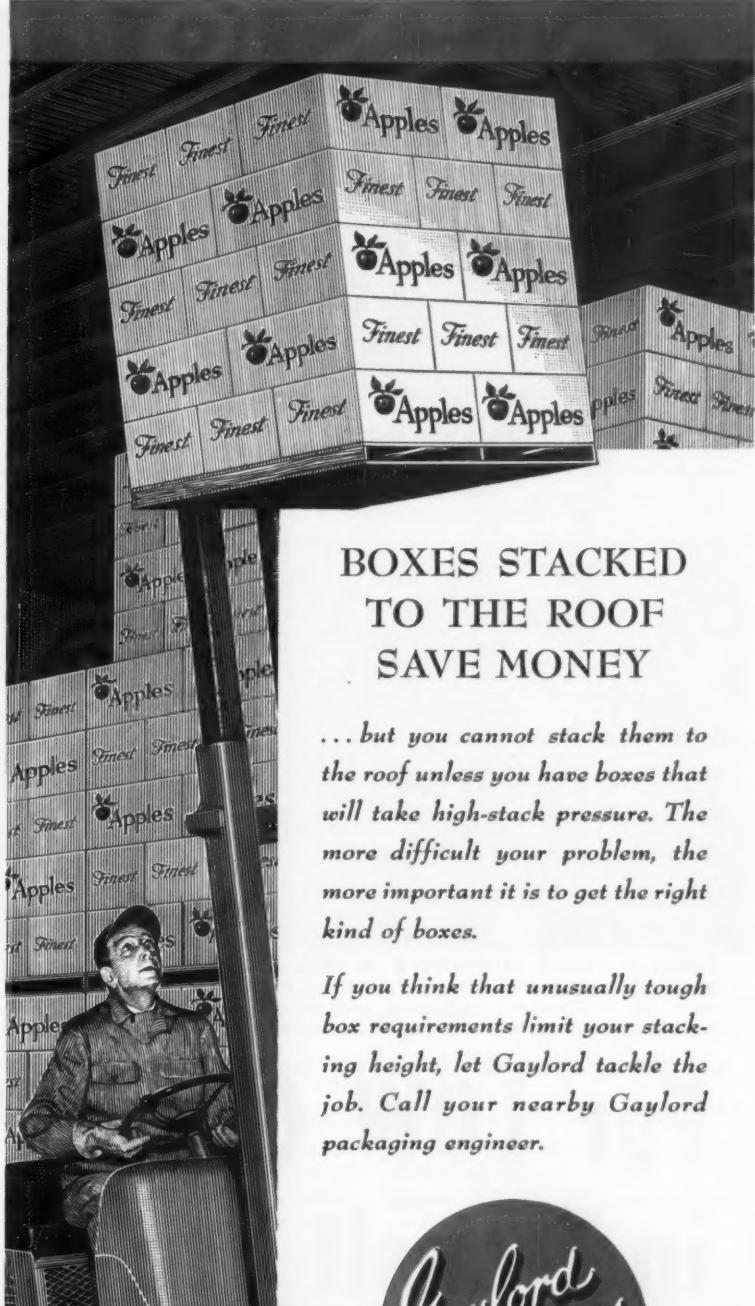
tach to seat studs on a 20-inch grid pattern on the cargo floor.

A net tie-down system, used to secure general cargo, consists of six cargo nets for vertical and lateral restraint and six barrier nets for forward and aft restraint. Cargo nets are connected together, attached to tie-down fittings along the right-hand side of the cargo compartment and suspended over the cargo. Barrier nets are suspended from the cargo nets during loading.

The new developments were put through their paces at Dover Air Force Base, Delaware, for a National Security Industrial Association Inspection group. Members of NSIA's Air Transportation Advisory Committee and Material Handling Advisory Committee were on hand to study progress of the military cargo handling program and to make suggestions for further improvements.

### The Results . . .

Spokesmen estimate some real savings as a result of the switch to conveyorized unit-load handling. With old loading methods it would take a minimum of nine hours to load and secure the cargo normally carried by a C-133A. With the system devised at Dover Air Force Base the job can be done in approximately 40 minutes.



These apples are being stacked higher than ever before, thanks to Gaylord boxes designed to meet special cold storage conditions.

### BOXES STACKED TO THE ROOF SAVE MONEY

*...but you cannot stack them to the roof unless you have boxes that will take high-stack pressure. The more difficult your problem, the more important it is to get the right kind of boxes.*

*If you think that unusually tough box requirements limit your stacking height, let Gaylord tackle the job. Call your nearby Gaylord packaging engineer.*

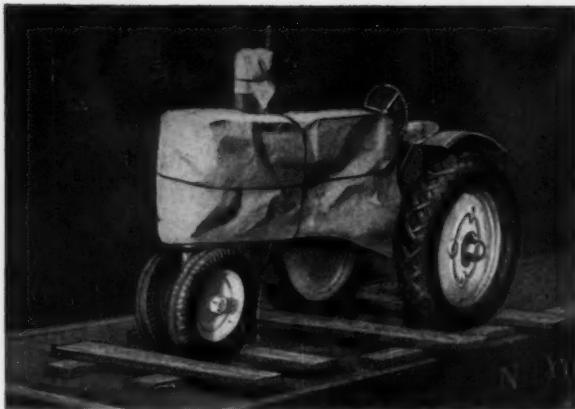


CORRUGATED AND SOLID FIBRE BOXES • FOLDING CARTONS  
KRAFT PAPER AND SPECIALTIES • KRAFT BAGS AND SACKS

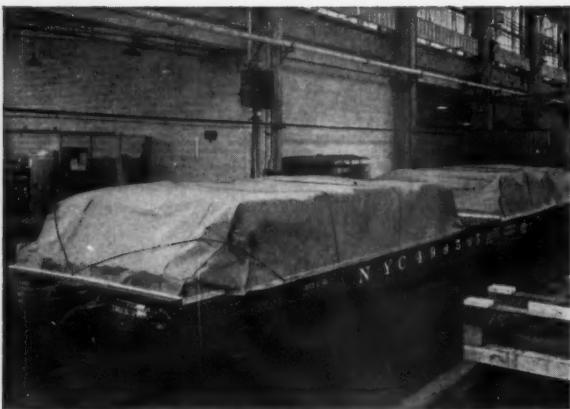
GAYLORD CONTAINER CORPORATION • ST. LOUIS

DIVISION OF CROWN ZELLERBACH CORPORATION

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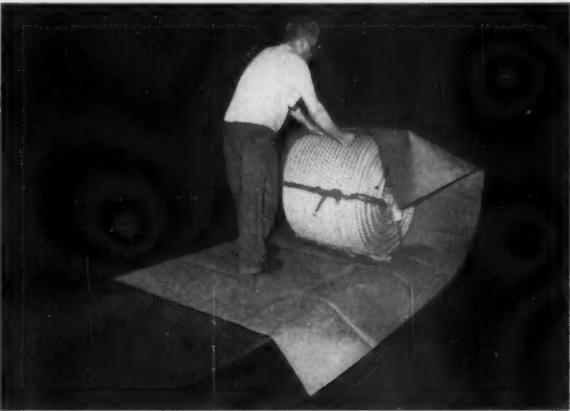
**PROTECT MACHINERY FROM DIRT AND WEATHER.** FIBREEN wrapped around vital parts of tractors, for example, protects them from weather damage on flat cars. FIBREEN "locks out" moisture and dirt. It is tough and durable yet pliable enough to conform easily to contours.



**GET SAFETY AND ECONOMY IN OPEN CAR SHIPMENTS.** Because waterproof FIBREEN keeps shipments safe from the weather, it gives you the economies of low cost open car shipment and handling by crane or other mechanical lift equipment.



**PROTECT TRUCK SHIPMENTS IN TRANSIT AND OUTDOOR STORAGE.** Tough FIBREEN stands up under the punishment of high speed, open trucking, and provides positive protection during outdoor storage.



**FOR BETTER MOISTURE CONTROL.** Just as waterproof FIBREEN keeps undesirable moisture out — it keeps necessary moisture in — as when shipping rope, leather, plastic clay, etc.

# For LOW COST Protection in Transit Use **FIBREEN** Industrial Packaging Paper

FIBREEN products are available in a variety of combinations . . . asphalt and non-asphalt laminants, flat and creped krafts and a selection of strengths. Most any widths are made to fit your packaging problem.

Write to our main office, American Sisalkraft Corporation, Attleboro, Massachusetts for name of nearest FIBREEN jobber, sample and informative and helpful booklet on packaging.

**American SISALKRAFT Corporation**

Chicago 6  
New York 17  
San Francisco 5

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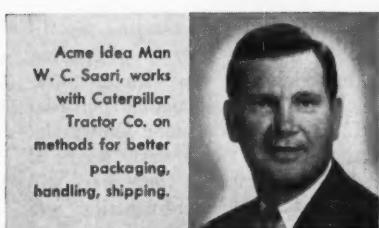
Know your AIM\*... Caterpillar Tractor Co. does...

## Steel Strapping speeds idler wheel handling

**CATERPILLAR TRACTOR CO., PEORIA, ILLINOIS,** uses heavy-duty Acme Steel Strapping to eliminate slow individual handling and costly blocking of idler wheel shipments. Stacked units of two to four idlers are steel strapped to wooden pallets, with protective intermediate and top frames. (Idea No. U6-23)

This unitizing idea protects bearing hubs of idlers, safeguards against damage. Loading and unloading are improved by the use of mechanical handling equipment. Caterpillar Parts Departments now unload carloads of idlers in less time than formerly required for manual unloading, and with greater safety. Storage economies are gained, and inventory control simplified.

\*Know your **Acme Idea Man**. His wide experience in solving all types of product handling and shipping problems will provide Ideas that can be applied profitably to your operations. Call him at the nearest Acme Steel office. Or write Dept. FDU 127, Acme Steel Products Division, Acme Steel Company, Chicago 27, Illinois. In Canada, Acme Steel Company of Canada, Ltd., 743 Warden Ave., Toronto 13, Ontario.



Acme Idea Man  
W. C. Saari, works  
with Caterpillar  
Tractor Co. on  
methods for better  
packaging,  
handling, shipping.



# STEEL STRAPPING

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# *The Case for*

# VCI\*

## \* VOLATILE CORROSION INHIBITOR

Over-rated or Under-rated?

A Packaging Panacea or a Flop?

By Philip A. Gelber

**S**INCE ITS PRODUCTION a few years ago, VCI has gained a respected place in the packaging industry. But it falls far short of what was once predicted for it. Perhaps, in a large measure, this is due to a lack of understanding of what VCI really is, what it can do, and equally important, what it cannot do.

### What Is VCI?

Malcolm J. Odell, vice president of Ludlow Papers, Inc., explains it this way. ". . . by definition, a volatile corrosion inhibitor must be a vaporous material capable of stopping the formation of rust . . . Many different compounds will meet this minimum definition, but are not practical VCI's, either because they are not effective under a wide enough range of conditions, or because they may have certain harmful effects on either the package or the product."

To the chemist, VCI means a compound of dicyclohexyl-ammonium nitrate, sodium nitrate, urea, monoethanolamine benzoate and/or amine salts. The formula may vary somewhat, depending on the manufacturer.

To the packaging engineer, VCI means a material that forms a vapor inside the package. This vapor has a positive chemical reaction with the surface being protected, to prevent corrosion from forming. It

should not be confused with a desiccant, which is designed to absorb moisture.

Originally, VCI was hailed as a panacea for all corrosion problems. Ironically, that exaggerated build-up may have been its downfall. Experts were afraid users would expect too much, with disappointing results. To prevent this, they began to talk less about its advantages and more about its limitations. It now seems clear that this heavy emphasis on the disadvantages of VCI scared off many users who could really use VCI to advantage.

One such case was with military packaging specifications. When MIL-P-8574-A was prepared (covering use of VCI-treated materials), it was with an ultra-conservative approach. It cautioned against potential negative features of VCI. This was done knowingly, to avoid misuse of the material in the early stages of its development. It was done because there were still some areas where solid technical information was lacking.

What has been proved after several years of actual use of VCI? Actual applications have shown it to be adequate from the protection standpoint. It is at least as effective as conventional preservative compounds. In addition, it has some major advantages to its credit. Among them are its ease of application

*(Continued on page 90)*



Using Bostitch staples, total packing time per drum is only 4 minutes. In addition to savings, new stapled container gives contents better protection than wooden case.

## **Saved—\$13,500 a year with change to stapled drum**

Garlock Packing Company of Palmyra, N. Y., found a better way to ship heavy lead-tipped rubber gaskets—and gained annual five-figure savings.

They had been packing twenty-five 1½-lb. gaskets in a nailed wooden case. Now they pack the same contents in an octagonal corrugated fiberboard drum with die-cut caps stapled for strength at both ends. A worker fits a cap in position and fastens it quickly with a Bostitch air-driven stapler. Every staple grips securely—exactly where it is needed.

Workers pack 375 gaskets an hour in the stapled containers vs. 100 an hour in the nailed wooden

cases. This new container and fast Bostitch stapling gives better protection, increases efficiency and cuts costs . . . saves this firm \$13,500 a year.

There may be savings opportunities like this in your shipping department. One of 400 Bostitch Economy Men, throughout U. S. and Canada, will be glad to study your shipping operation, at no obligation to you. He may be able to show you where and how Bostitch stapling can improve your shipping and cut your costs.

Look under "Bostitch" in your phone book or send the coupon.

**Fasten it better and faster with**



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DECEMBER, 1957

Bostitch, 712 Briggs Drive, East Greenwich, R.I.

- Please send information on ways stapling helps shippers.  
 Please send free bulletins on other ways stapling can cut costs.

I want to fasten:  corrugated board  leather  roofing  
 cartons  plastic bags  rubber  
 fabric  wood  light metals

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

Zone \_\_\_\_\_ State \_\_\_\_\_



**ABOUT THE AUTHOR:** Philip A. Gelber is one of the nation's leading experts on volatile corrosion inhibitors and materials using them. Until recently he had been in government service, as Head of the Chemical Engineering Division of the Aeronautical Materials Laboratory. He was also Supervisor of the Preservation and Packaging Branch of the Lab. In 1956, at the Joint Military-Industry Packaging and Material Handling Symposium, he delivered a technical paper on the use of volatile corrosion inhibitors as barrier materials. He is presently employed with American Petroleum Corporation.

without special equipment, and the fact that it leaves the product clean and ready for use. This latter feature is particularly important in military packaging. It is often overlooked by those who evaluate packaging by initial cost only.

#### Recent Findings

Only recently scientists have learned how VCI really works. They have seen through the electron microscope that it actually forms a film of protective oxide on the base metal, to protect it from attack. It is interesting to note, however, that this film forms only when the environment is near the corrosive range. In other words, VCI is capable of forming a protective

film on the product, but it does so only when needed. Furthermore, this invisible envelope continues to protect the metal from corrosion even after it is removed from the package. This was proved in recent tests by the Bureau of Ships Industrial Test Laboratory in Philadelphia.

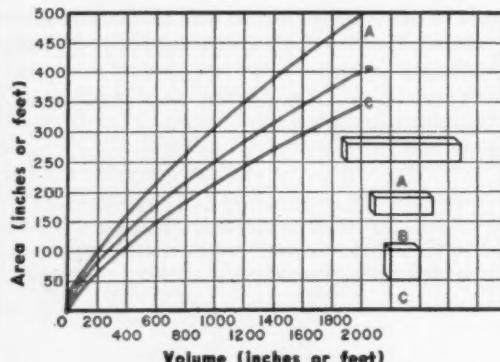
Another test by this laboratory covered the combination of VCI with supplementary oils (as required by Specification MIL-P-8574). This test proved that additional protection by oils was hardly ever needed. In fact it proved that some oils actually have a corrosive action when combined with VCI. This is known in technical terms as "incompatibility."

*(Continued on page 142)*

## CALCULATING VCI PAPER REQUIREMENTS

Both the cubic volume and the shape of the package are directly related to the area of VCI-coated paper needed for adequate protection. These factors are combined on the accompanying chart. Calculate the amount of VCI paper needed as follows:

1. Find volume of package in feet or inches.
2. Relate shape to one of 3 shown on chart.
3. Read up from volume scale (horizontal) to the



point where it bisects the appropriate curve for the package required.

4. Read across to area scale (vertical) to find the area of VCI paper needed. This area will be the same for both 1 gram and 2 gram coatings.

#### Four Rules for Using VCI Paper

1. The innermost surface of the package should be the VCI coating. Where padding or blocks must be used inside the vapor zone, they should be non-corrosive and faced with VCI wherever they contact the metal surface.
2. The coating should be placed as close as possible to the surface being protected. With large cavities or narrow holes it is advisable to line the inner surface with the paper.
3. The package should be designed so that any air entering it must pass over or through a VCI coating. Sealing of packages is not essential, but it will add to the package life.
4. VCI barrier wraps, or overwraps, or containers of barrier materials, should be used when extra long periods of protection are needed. They should also be used for outdoor exposure or where water might get into the package and wash away the VCI.

*Courtesy of Ludlow Papers, Inc.*

# Report from Atlantic City

## Latest Packaging and Handling Equipment Shown; Plans for 1958 Show Announced.

THE LATEST DEVELOPMENTS in packaging and material handling equipment were displayed in Atlantic City's Convention Hall October 28 through 31, at the National Industrial Packaging and Material Handling Exposition of 1957. Over 3600 visitors attended the show. A total of 55 companies exhibited products that included packaging machinery, containers, materials and methods, as well as handling equipment and attachments, and the newest transportation equipment.

### Short Course and Competition Featured

The famous SIPMHE Short Course in packaging and handling attracted over 200 registrants. The Course this year was conducted by Temple University.

One of the highlights of the 4-day show was the 1957 National Championship Packaging and Handling Competition. There were over 100 entries in the seven categories of the competition. This year all entries were prominently displayed in the middle of the exhibit area. Announcement of the winners was not made until Wednesday afternoon, the third day of the show. James W. Sadleir, RCA Radio and Victrola Division, was awarded the Harold Jackson Trophy. This trophy is given for the entry that is judged "Best of Show" for the entire Competition.

### Chicago Picked for '58

While the Exposition was in full swing, SIPMHE officials were busy making plans for next year's show. They announced that the 1958 SIPMHE-sponsored National Industrial Packaging and Handling Exposition will be held October 14 through 16, 1958, at The Coliseum, Chicago, Illinois. As in past years, it will include both the Short Course and the National Competition.

(More on next page)



James W. Sadleir poses with "Best of Show" trophy at the National Championship Packaging and Handling Competition. His entry was a phonograph package.

## SIPMHE Show (continued)



### Group I

*Corrugated or solid fibre boxes*

**Winner:** A. G. DelRoccili  
Radio Corp. of America, Television  
Div., Camden, New Jersey

**Entry:** Television instruments



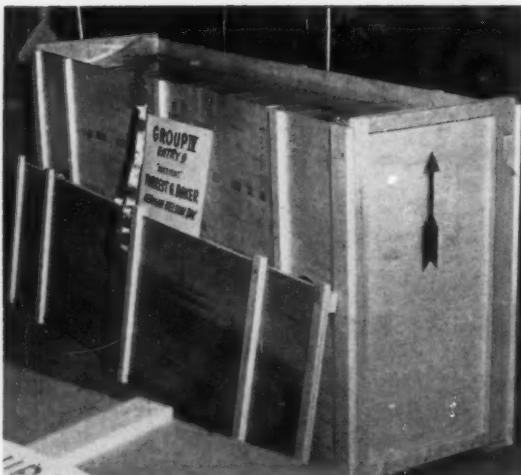
### Group II

*Nailed wooden boxes and crates*

**Winner:** David W. Scott  
Flight Refueling, Inc.  
Baltimore, Maryland

**Entry:** Aerial Refueling Hose Reel

## Winners of the 1957 and Handling



### Group IV

*Cleated panel boxes*

**Winner:** Forrest G. Baker  
American Air Filter Co., Inc.  
Moline, Illinois

**Entry:** Air Conditioning Components

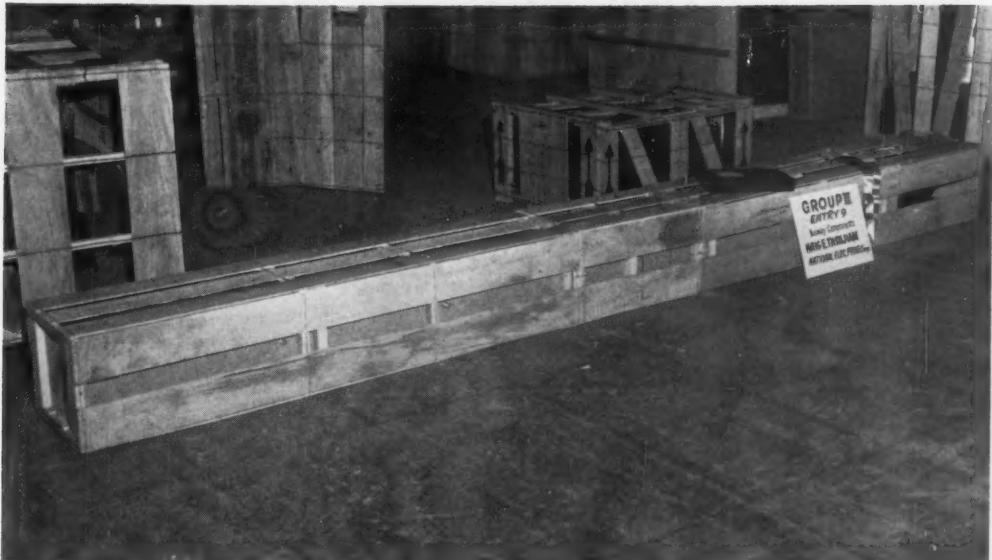


### Group V

*General*

**Winner:** James G. Witte  
Convair Div. of General Dynamics Corp.  
San Diego, California

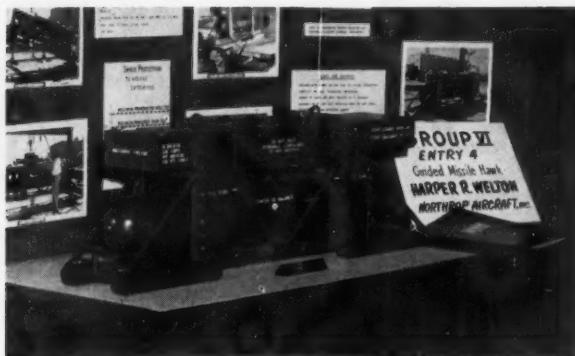
**Entry:** Spar Rails for Aircraft Wings



**Group III**  
*Wirebound boxes and crates*

**Winner:** Haig E. Tashjian  
 National Electric Products Co.  
 Linden, New Jersey  
**Entry:** Electrical Busway Components

# National Packing Competition



**Group VI**  
*Export packages*

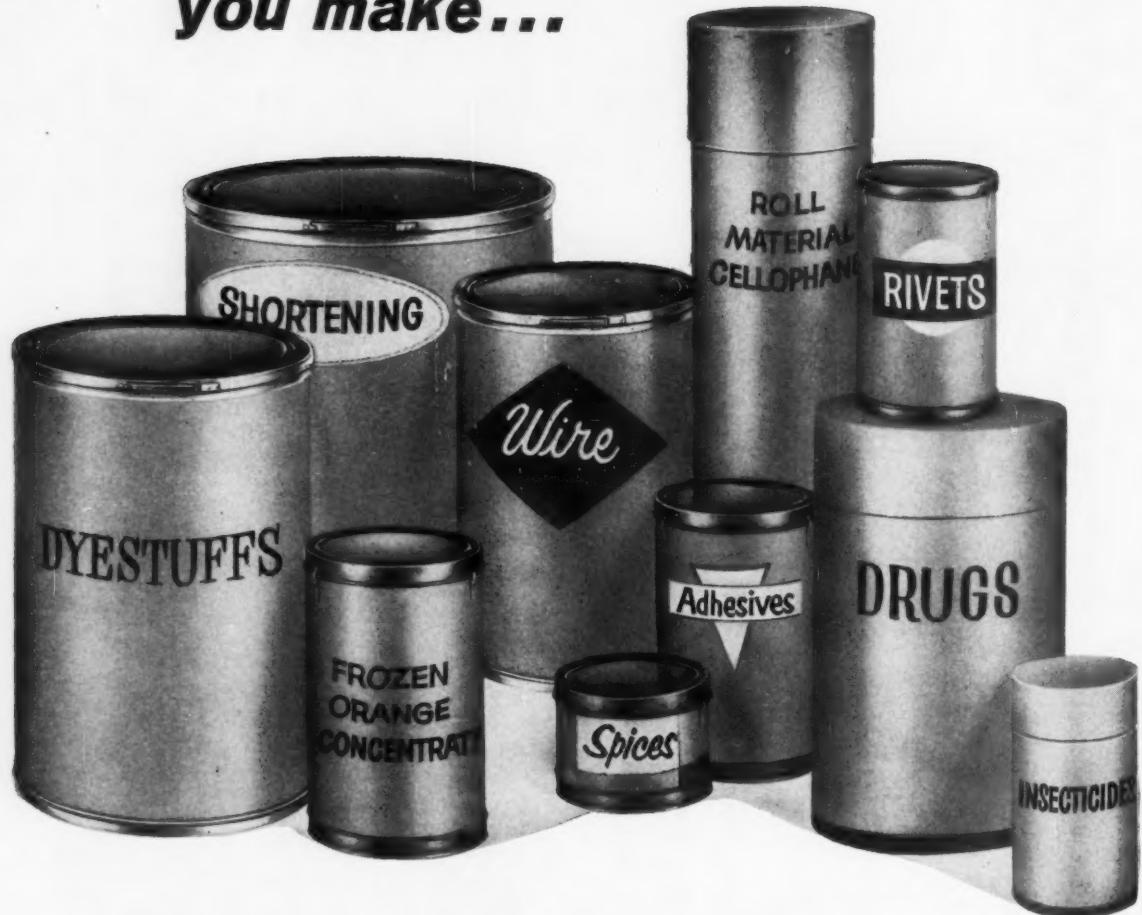
**Winner:** Harper R. Welton  
 Northrop Aircraft, Inc.  
 Hawthorne, California  
**Entry:** Hawk Guided Missile



**Group VII**  
*Material Handling*

**Winner:** James W. Sadleir  
 RCA, Radio and Victrola Div.  
 Camden, New Jersey  
**Entry:** "45" Record Changer Mechanism

**No matter what kind of product  
you make...**



***there's a Continental  
FIBRE DRUM for it!***

You may manufacture and ship dangerous chemicals or a perishable food stuff or a product like wire or cellophane. But whatever you make, there's a Continental Fibre Drum to serve your shipping and storing needs.

These low-cost containers are dependable, safe and durable. Each is a high grade, top-quality product especially made to do a particular job for you . . . and do it well. Continental Fibre Drums . . . Leverpak, Stapak, and Fiberpak . . . are light weight to make handling easy and to keep freight costs down. Yet you'll find these containers are sturdy enough to take even the roughest punishment.

So whatever your product, check Continental's Fibre Drums. You can lower your operating costs by ordering the finest fibre drums made. Call Continental soon.

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94

**CONTINENTAL  
CAN COMPANY**

FIBRE DRUM & CORRUGATED BOX DIVISION,  
NEW YORK, N. Y.

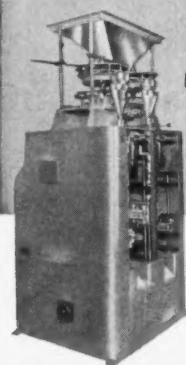
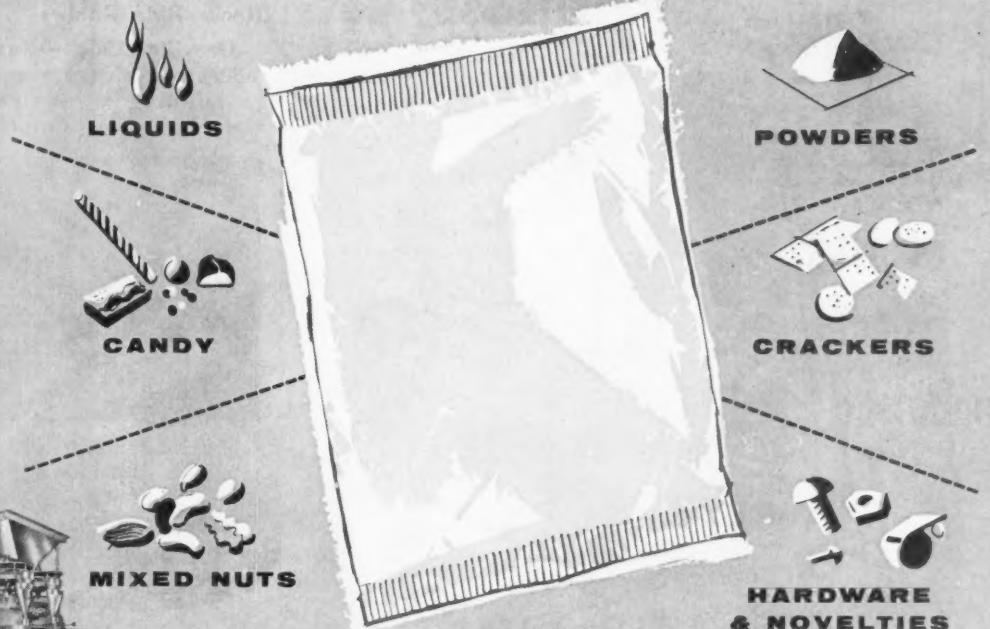
VAN WERT • PHILADELPHIA • PITTSBURGH  
TONAWANDA • CLEVELAND • CHICAGO • ATLANTA  
ST. LOUIS • SAN FRANCISCO • LOS ANGELES  
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FLOW

DO IT AUTOMATICALLY WITH LYNCH

# ROBO-WRAP



## PILLOW-PACKAGING IS FASTER...COSTS LESS!

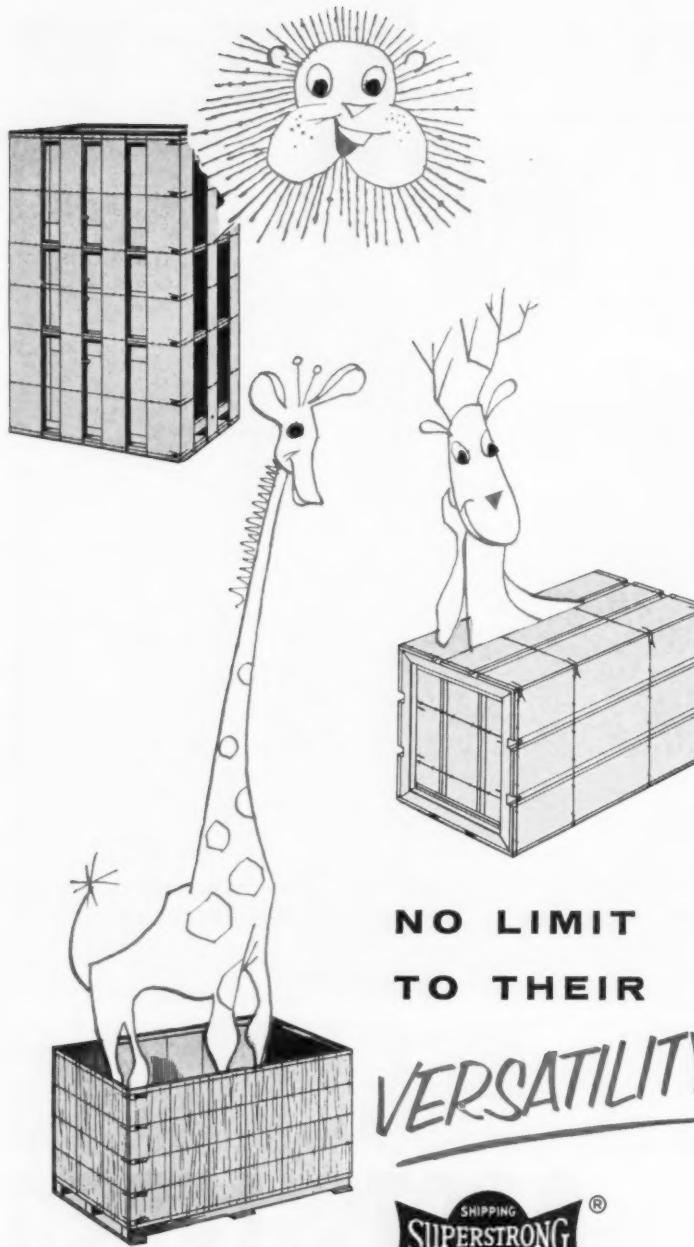
You'll see some *real* manpower savings with Lynch ROBO-WRAP! One operator and Robo-Wrap can form, fill, and seal 60, 120, 240 pillow-packages a minute. Exclusive hand-over-hand action does the job faster than any other machine. Robo-Wrap changes package size quickly; takes cellophane, polyethelene, saran, plyafilm, mylar, foil and laminates; handles solids, liquids, powders, and granules easily; keeps them clean. New booklet gives full facts on low maintenance and simple integration with existing equipment. Write for it today.

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DECEMBER, 1957

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ROBO**  
CORPORATION  
A Division of  
LYNCH CORPORATION™  
Anderson, Indiana





## Wirebound BOXES AND CRATES

Maybe Mr. Giraffe is sticking his neck out, but you won't... if you call in a Superstrong Wirebound engineer on an industrial packaging requirement. Regardless of shape or weight, these containers will solve your packing and shipping problems quickly, easily, economically!

*Let us help you solve your next packaging problem; you'll be pleasantly surprised at the savings in time, weight, space and shipping costs.*

**WRITE TODAY** for complete details... Dept. 300

**RATHBORNE, HAIR & RIDGWAY BOX CO.**

1440 West 21st Place • Chicago 8, Illinois

Wirebound Boxes and Crates • Wooden Boxes and Crates • Corrugated Fibre Boxes • Starch Trays • Pallets • Wirebound Pallet Boxes  
Circle No. 110 on Reader Service Card for more information



### Rocks Ride Rubber

**Oroville, Calif.**—Nearly a million tons of rock were moved in building a seven-mile-long water diversion tunnel, and

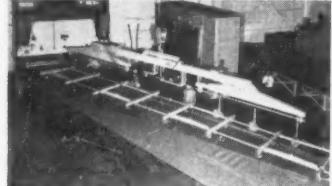


rubberclad conveyor belts carried two-thirds of it with no more attention than taking up the slack. Because it ran over steel plates, fiercest punishment was load dumping, which pounded the belt against an unyielding steel anvil; but its built-in cushioning prevented breaks, lengthwise splits, and separation of rubber from carcass. The mucker belts carried rocks—some as heavy as 3,000 pounds—for 23 feet up grades as steep as 22 degrees.

Circle 278 on Reader Service Card

### Don't Bend!

**Long Beach, Calif.**—Multiply by many times the joy of



luggering around a big mattress and you'll easily understand why an airplane maker—who had to move 46-foot aluminum sheets without bending them—found a suction lifter a boon. Vacuum pads hold the sheet while it's becoming a wing.

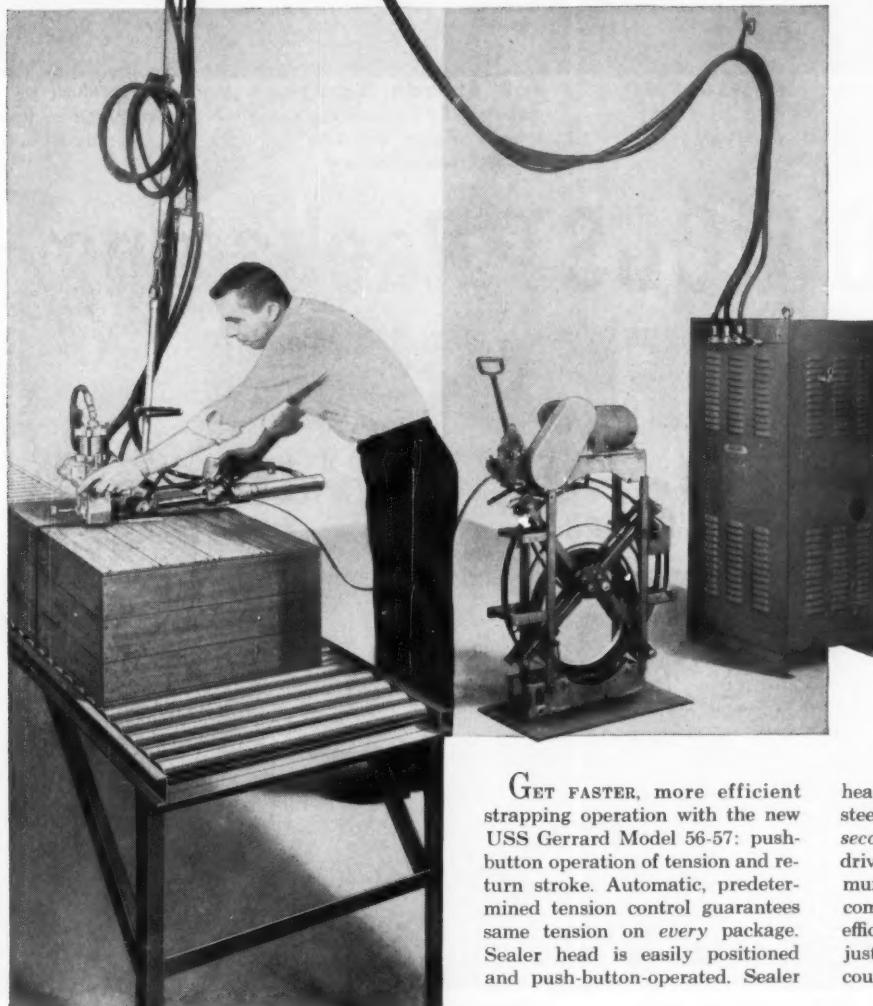
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**NEW!**

# USS GERRARD

## Hydraulic-Powered Sealer-Stretcher Combination

... provides  
controlled  
tension—  
faster  
operation



GET FASTER, more efficient strapping operation with the new USS Gerrard Model 56-57: push-button operation of tension and return stroke. Automatic, predetermined tension control guarantees same tension on *every* package. Sealer head is easily positioned and push-button-operated. Sealer

head converts from  $\frac{3}{4}$ " to  $1\frac{1}{4}$ " flat steel strapping in *less than 60 seconds*. Can be used with power-driven strap dispenser for maximum speed and efficiency. For complete information on the fast, efficient USS Gerrard Model 56-57, just clip out and send in the handy coupon, today.

## GERRARD STEEL STRAPPING

ROUND AND FLAT



Department of  
**U. S. STEEL SUPPLY DIVISION**  
United States Steel, General Offices: Chicago, Illinois

UNITED STATES STEEL

Circle No. 60 on Reader Service Card for more information

DECEMBER, 1957

— SEND FOR THIS FREE LITERATURE NOW —

Gerrard Steel Strapping  
2937 West 47th St., Chicago 32, Ill.

Without obligation, please send me:

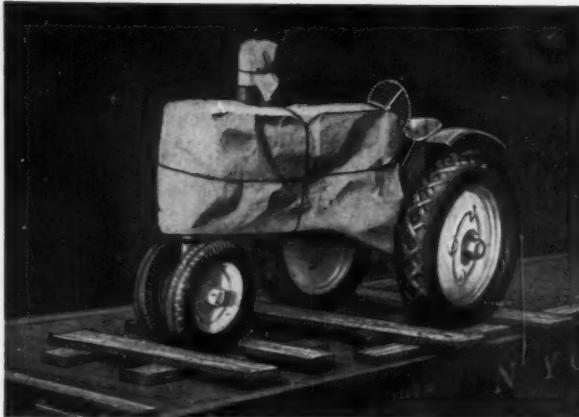
- New Gerrard Blue Book of Packaging
- Folder on Hydraulic Sealer-Stretcher
- Folder on Automatic Strapping Machine

Name .....

Company .....

Address .....

City ....., State .....

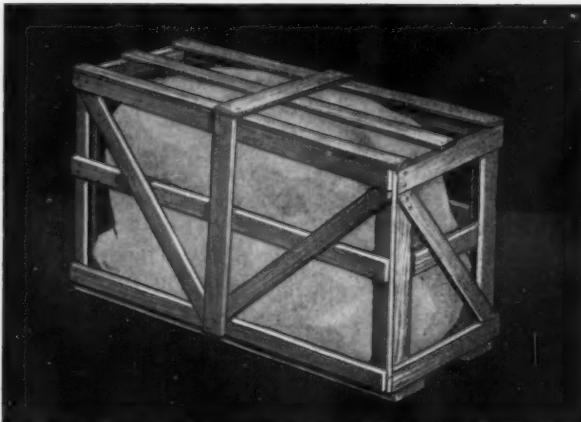


**PROTECTION OF OPEN-CAR SHIPMENTS** Many types of products and equipment can be shipped on flat-cars thereby facilitating loading and unloading. Fibreens provides complete protection enroute.



**FOR BETTER MOISTURE CONTROL** Just as waterproof Fibreens keeps undesirable moisture out — it keeps necessary moisture in — as when shipping rope, leather, plastic clay, etc.

# For LOW COST Packaging USE FIBREEN Industrial Packaging Papers



**A CRATE INSTEAD OF A CASE** Machines, motors, other odd shapes wrapped in Fibreens can be shipped in crates thus reducing packing costs and shipping weights.



**IDEAL FOR MAKING PACKAGES** Small machine parts and similar items are protected better when shipped in packages made with Fibreens. Try it!

Fibreens products are available in a variety of combinations . . . asphalt and non-asphalt laminants, flat and creped krafts, and a selection of strengths. Most any widths to fit your packaging

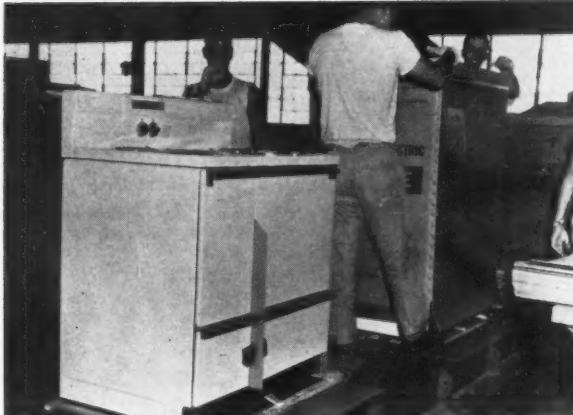
problem are made. Write to our main office, American Sisalkraft Corporation, Attleboro, Mass., for name of nearest Fibreens jobber, sample and booklet on packaging.

**American SISALKRAFT Corporation**

Circle No. 7 on Reader Service Card for more information

Chicago 6  
New York 17  
San Francisco 5  
IN CANADA — ALEXANDER MURRAY  
& COMPANY, LTD., MONTREAL

PACKAGING AND  
SHIPPING IDEA  
of the month



THREE-HIGH LOADING has resulted in a free ride for extra ranges in every carload shipped from G. E.'s Appliance Park. Formerly, 22% of available space wasn't used but it was paid for.

INTERIOR BRACING is the secret behind this month's "Packaging and Shipping Idea." It and the container were designed to fit in with G. E.'s high speed assembly operations. Thus, with virtually no additional packaging costs, shipping expenses have been decreased considerably.

Photos courtesy of Inland Container Corp.

## Ranges Shipped Free

NOTICE anything unusual about the photograph at left? To the discerning eye of the experienced shipping man an expensive loading error seems obvious. In the top tier electric ranges have been loaded face down in apparent complete disregard for "this-side-up" arrows.

But its not a boner . . . the load was planned that way. It is a revolutionary practice made possible by ingenious design of containers used for shipping ranges from General Electric Company's Appliance Park.

When engineers first set about designing a new shipping container the primary objective was that it lend itself to G.E.'s highly automated assembly and warehousing procedures while providing adequate protection under normal shipping conditions. From that point they began to look for extra benefits.

Traditionally, ranges and similar large appliances are shipped upright. As a result, units more than 42 inches high cannot be loaded more than two high in standard cars. G.E. found that two-high loading wasted 22% of the space available in each car. Furthermore, a loaded car weighed far under the limit upon which full freight was paid.

Inner packing was designed to withstand horizontal as well as vertical compression and to avoid abrasion to enameled surfaces even when ranges were in a prone position.

### Result: Free Shipping

Now, each carload of ranges contains extra units that ride to the destination free. Lying on their faces, they use up space formerly paid for but not used.

**Tops for  
'round-the-world  
packaging...**

APPROVED  
MIL-B-121A

**GREEN CORE®  
Super Cloth Rap  
Heavyweight**

Grade C—Type 1—Class 1 and Class 2

For safe shipment and storage anywhere in the world, Uncle Sam knows how metal products must be packaged and specifies exactly what materials shall be used. First Grade "C" barrier to be approved under Specification MIL-B-121A was Green Core Super Cloth Rap, Heavyweight. It's still the best in the field.

Green Core is so easy to handle that packaging operations go faster, cost less. If you ship odd-shaped parts, you'll be particularly gratified with the way flexible Green Core easily conforms to the shape of your products.

Green Core Super Cloth Rap, Heavyweight, is waterproofed, greaseproofed and self-sealing. The greaseproof film is on cloth backing, coated on both sides with compounded, microcrystalline wax. Lock seam joints are as greaseproof as the material itself. Use Green Core Super Cloth Rap, Heavyweight. It is your assurance of lower final packaging costs.

This Green Core barrier is particularly recommended for Methods 1, 1A-1 and 1A-2 under MIL-P-116. Qualified Products List Numbers will be furnished on request.

*Write for samples and complete data.*

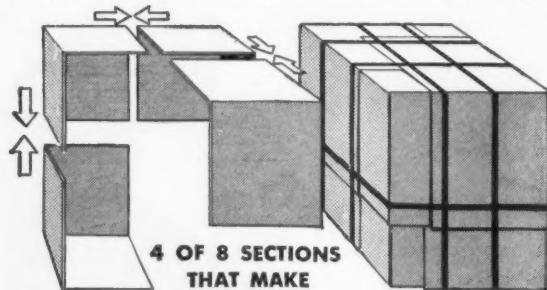
**MID-STATES Gummed Paper Company**

DEPT. 1218 6850 S. HARLEM, BEDFORD PARK, ILL., ARGO P.O.

New York	Syracuse	Philadelphia	Boston	Atlanta
Cleveland	Detroit	St. Louis	Los Angeles	

Circle 91 on Reader Service Card for more information  
100

Circle 120 on Reader Service Card for more information



## **ADJUSTA-PAK**

### **3-WAY TELESCOPING CONTAINER!**

Do you ever wish that your master containers would stretch or shrink to fit the different sizes you have to ship? This one does.

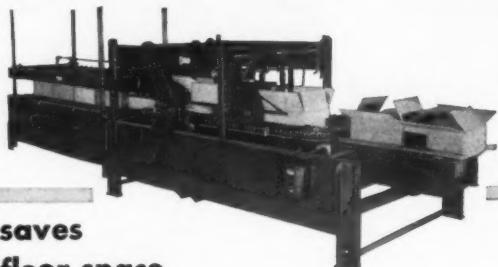
**How it works:** eight scored and slotted sheets of corrugated are quickly folded into Adjusta-Pak sections that telescope in three dimensions. Packed container is secured with Signode steel strapping.

**What it does:** ends the search for a right-size container and the waste of cutting containers to size. Cuts damage, saves cubage and weight, prevents pilferage. Ideal for overpacking domestic containers for export.

Adjusta-Pak comes in three standard sizes. Free descriptive folder shows details, includes size chart. Write for your copy.

**SIGNODE STEEL STRAPPING CO.**  
Dept. SP, 2618 N. Western Avenue, Chicago 47, Illinois  
Offices coast to coast.  
Foreign Subsidiaries and Distributors World-Wide  
In Canada: Canadian Steel Strapping Co., Ltd., Montreal • Toronto

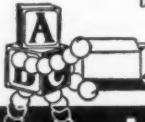
## **A-B-C Short Case Sealer**



**saves  
floor space**

This A-B-C Short Case Sealer really increases packaging efficiency. Glues, folds and seals either or both top and bottom flaps in one operation—automatically. Speeds up to 30 cases a minute. Finest welded construction. Ball bearing construction reduces maintenance. Guaranteed not to get out of "time."

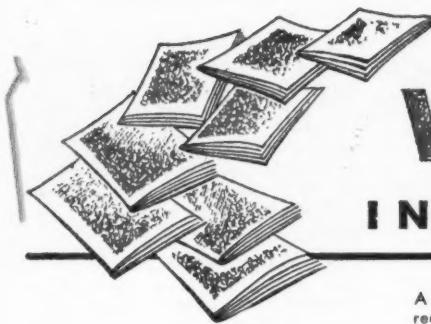
**WHATEVER YOUR PACKAGING PROBLEM,** there's a proved A-B-C machine to solve it—case sealers, unloaders and unscramblers, side sealers and hand gluers.



WRITE TODAY FOR DETAILS—  
FLOOR PLANS & SPECS

**A-B-C** PACKAGING MACHINE CORP.  
TARPOON SPRINGS, FLORIDA

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FLOW



# WHAT'S NEW IN USEFUL LITERATURE

A bibliography of New and Current Manufacturers' Publications available upon request. Indicate choice (s) on self-mailing Reader Service Card on pages 33 and 34.

## What To Look for in Sling Chains:

A listing of seven main points to consider when ordering sling chains is featured in DH-101, a four-page bulletin of the American Chain Division, American Chain & Cable Company, Inc. Drawings are shown for certain types of standard sling chains: single, double, triple, and quadruple. There is a chart of working load limits of two-leg chains made of X-Weld 125 or Endweldur 125 Chain, based on 50% proof tests.

Circle 161 on Reader Service Card

## Spray-On Stenciling:

A pocket-size, combination folder and color card has been prepared by Reynolds Ink, Inc. to explain its stencil inks that are sprayed on from aerosol containers. Ideal for stenciling boxes, crates, cartons, bales, burlap, pails, drums; steel, wood, canvas, concrete; for marking assembly instructions, trade-marks, lubrication and maintenance instructions on semi-finished and finished products of all kinds, states the bulletin.

Circle 162 on Reader Service Card

## Answer To Dock Problems:

"Which one of these loading problems is yours?" asks a four-page bulletin from Magline, Inc., and poses 9 situations encountered in every day dock loading operations. The bulletin (Difficult Dock Problems and How to Solve Them) points out practical, cost saving solutions through the application of light-weight magnesium dock boards, mobile loading ramps, and portable ramps.

Circle 163 on Reader Service Card

## Jib Crane Data:

Jib cranes manufactured by Becker Crane & Conveyor Company are the subject of a detailed catalog sheet. It includes an illustrated description of jib crane construction, along with an engineering drawing and table of dimensions—all the information needed for selection of crane capacity, boom length, and lift height.

Circle 164 on Reader Service Card

## Steel Pallet Advantages:

Fleetco Steel Pallet Sales Co. will send you an information sheet which tells how the Fleetwood-Airflow steel pallet can support extra-heavy loads in proportion to its weight. (A photograph shows a 36" x 48" pallet weighing 56 pounds holding a 20 ton load of sheet steel.) The unit is made for 4-side approaching, is rust-proof and fire-proof, says the bulletin. Made of steel its long life-expectancy is an advantage.

Circle 165 on Reader Service Card

## Quick-Assembly Container:

One man with a hammer can assemble a Band-Box in a few minutes, according to a 4-page bulletin issued by Ackermann Manufacturing Company. This unit is nestable, self-palletizing, and reusable. Its bottom may be used without sides as a pallet for many commodities. A step-by-step series of photographs demonstrates the assembly process with clip-fasteners. Capacities of standard units and physical specifications are mentioned.

Circle 166 on Reader Service Card

## Crane Case History

### Prepared:

Gould Reports ("impartial personal investigation") are prepared for applications of certain Austin-Western equipment. Report No. 5604 tells how a hydraulic crane was added to the equipment pool of the Los Angeles Department of Water and Power. Lifting 3-ton transformers, loading wire reels, excavating and pouring concrete with a stock bucket, are some of the uses to which the crane was put.

Circle 167 on Reader Service Card

## Tells About One-Yard Shovel:

The Model LHM-75 Trojan tractor shovel is described and illustrated in a colorful 4-page bulletin issued by the Yale & Towne Manufacturing Company, Contractors Machinery Division. The LHM-75 is a one-cubic yard capacity machine, equipped with torque converter and forward and reverse power shift. The bulletin points out vehicle safety features: reverse curve arms

which give 360 degree vision to the operator even when the bucket is raised; independent bucket action that permits the load to be carried at wheel level; and straight-line horizontal thrust which allows crowding while maintaining full traction and normal steering.

Circle 168 on Reader Service Card

## Need a Winch To Do Heavy Work?

A 35-pound winch with a self-contained motor and a lifting capacity of 6,000 pounds is the subject of a 4-page folder available from the All American Engineering Company. According to the bulletin, the Model 61 winch is small enough to be carried in one hand, making it readily available for various applications in hoisting and hauling jobs at boatyards and garages, material handling, construction and maintenance work.

Circle 169 on Reader Service Card

## Concrete Evidence:

L. Sonneborn Sons, Inc., Building Products Division, has published a four-page brochure on Lapidolith, a patented product for chemically hardening and dustproofing concrete floors. Installation photographs, demonstrating the product's use in floors that support material handling equipment, are shown. Information is included on use of the material on terrazzo and vertical concrete surfaces of storage tanks, silos, wainscoting, and supporting columns. Specifications, application data, and information on the three-year minimum bonded guarantee are provided.

Circle 170 on Reader Service Card

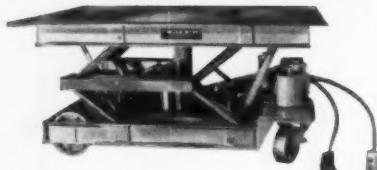
## Protection Against Abrasives:

Armorite—a rubber compound developed to provide exceptional resistance to abrasion—is the subject of a catalog sheet issued by B. F. Goodrich Industrial Products Company. In addition to outlining specifications, the sheet lists Armorite applications in chutes, hoppers and other wearing surfaces handling ore, sand or gravel; sandblast cabinets; flotation cells; dredge pump liners; cyclone collectors and fan housings for abrasive ducts.

Circle 171 on Reader Service Card

## SUPER-LIFT...

### Weld-Bilt HYDRAULIC LIFT TABLES Make Heavy Lifts Easy



Here's a profitable muscle-saver for heavy sheet steel, dies, or machined parts! Handles loads up to 10 tons. Easy to load, move, unload. Just adjust table to loading height — as low as 26" — slide sheets or parts on easily, without lifting or tugging. Then move table to machine or press position, raising to exact working height — up to 42". Hydraulic cylinder does the work, through handy foot pump or electric operation controlled by push button or foot switch.

Write for prices on this Weld-Bilt Heavy Duty Hydraulic Lift Table — or lighter-duty Pedestal type Table.

## SUPER-CONVEYOR...

### Weld-Bilt STEEL BELT CONVEYOR Serves Years Longer!



Before you invest in conveyors, check all the advantages of the WELD-BILT STEEL BELT CONVEYOR! Provides positive straight-line tracking, without weaving, buckling, stretching, creeping... Slip-proof drive, with positive-engagement steel sprocket that just can't slip... Unlimited Belt Life, with conveyor surfaces of solid sheets of heavy duty steel or stainless steel that carry heaviest, roughest loads safely for years... Friction-free operation, with individual links riding on ball bearing rollers... And unusual versatility, with horizontal or inclined styles, in sizes from 12" to 60" widths. Write now for prices and installation suggestions.

Hydraulic Lift and Pallet Trucks — Mechanical Lift Trucks — Portable and Automatic Elevators — Floor-to-Floor Elevators — Drum Elevators — Platform Trucks — Skids — Special Equipment.

WEST BEND EQUIPMENT CORP.  
MATERIALS HANDLING ENGINEERS.

335 WATER STREET • WEST BEND, WIS.  
Circle 143 on Reader Service Card

102

## ... USEFUL LITERATURE . . . USEFUL LITERATURE

### All About Ladders:

The Aluminum Ladder Company manufactures the Alco-Lite line of mobile all-steel Safety Ladder-Stands, which are described in an 8-page illustrated catalog. Height, platform size, width and depth, and overall height for 30 models from 1 to 8 steps are given. Ladder-Stands move easily on special ball-bearing casters which retract automatically under weight.

Circle 172 on Reader Service Card

### Conveyor and Elevator Safety:

Bulletin 557 from Stephens-Adamson Mfg. Co. is designed to show conveyor and elevator operators the uses of Hold-back equipment in protecting personnel and equipment. Technical data, specifications, and illustrations are given for the standard roller type and totally enclosed type Holdback and the automatic ratchet and pawl.

Circle 173 on Reader Service Card

### How To Plan Your Crane Requirements:

Manning, Maxwell & Moore, Inc. (Shaw-Box Crane and Hoist Division) has published Bulletin No. 15005-1-57.

a 25-page, 2-color booklet to aid in planning for overhead electric crane requirements. A system of indexed, split-pages enables the reader to cross-reference both load capacity and span needed to the equipment designed for his particular specifications. Series "D" and "D-L" cranes are covered by the bulletin with outline dimensions and specifications.

Circle 174 on Reader Service Card

### Report from the Box Industry:

Wooden Box and Crate is a magazine published by the National Wooden Box Association. The July-August issue includes a panel discussion on box manufacturing, new container developments in fruit and vegetable handling, and an article on food processors adopting standard bin box sizes.

Circle 175 on Reader Service Card

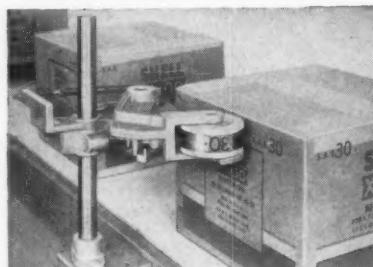
### Chain Belt News:

The Rex World is a magazine published by Chain Belt Company to pass on information about chain belt applications. Stories and illustrations of use in diverse machinery are included.

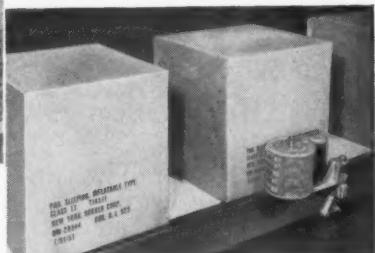
Circle 176 on Reader Service Card

## Low-cost marking attachment pays for itself in weeks...saves thousands of \$ every year

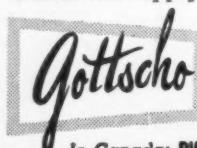
Imprints 1, 2 or 4 sides of cases in single pass



ROLACODER twin-action markers... for imprinting codes and lot numbers on 2 or 4 sides of cases simultaneously... without requiring cases to be turned.



ROLACODER single-side marker for accurate spot imprinting of brand names, varieties, code-dates, lot numbers on cases, cartons, fibre drums, bags, etc.



Write for descriptive literature  
**ADOLPH GOTTSCHO, INC.**  
Dept. D, Hillside 5, N.J.

In Canada: RICHARDSON AGENCIES, LTD., Toronto & Montreal

Circle No. 65 on Reader Service Card for more information

Automatic  
Production-Line  
CODING, MARKING,  
IMPRINTING  
MACHINES

FLOW

## ... USEFUL LITERATURE . . . USEFUL LITERATURE . . . USEFUL LITERATURE

### Reference for Comparing Chains:

A one-page chart that illustrates the 12 types of chain and, under each type, lists the trade name designation of every manufacturer may be obtained from The McKay Company. It can be wall mounted for quick reference or inserted into a file as a permanent record. Other data found on the chart: specifications for welded and weldless aluminum chain and for welded and weldless steel chain.

Circle 177 on Reader Service Card

### Want To Know More About Industrial Doors?

Technical data and illustrations of industrial doors are found in Catalog No. A-97 from the Industrial Door Division, Richards-Wilcox Manufacturing Company. Types mentioned: "Super-Way" steel frame doors; industrial channel frame doors; galvanized sheet steel covered doors; corrugated sheet metal doors; "Sta-Rite" wood doors; steel plate doors; vertical lift doors; crane-way doors. A section on automatic electric door operators is included.

Circle 178 on Reader Service Card

### Plastic Handling:

A 4-page brochure relates the story of plastic tote boxes as manufactured by Hollywood Plastic Arts Inc. Claims for these units, made of U.S. Royalite, are that they are light-weight, unbreakable, acid-alkali resistant, easy to clean, and odorless. A line of partitioned plastic boxes is also shown.

Circle 179 on Reader Service Card

### Wheels for Every Need:

Saginaw Products Corporation offers Catalog No. W-57 as an aid to selection of the proper pneumatic wheel or caster for the job. In this 27-page bulletin, there is a page of wheel construction types, a cross-reference of tire to rim sizes, and information on wheels for military application. Sizes and specifications are listed for wheels, tires, hubs, casters, and other associated products.

Circle 180 on Reader Service Card

### How To Care For a Tractor:

The Caterpillar Tractor Company has printed a Maintenance Guide for the D7, D8, and D9 track-type tractors. The 24-page manual has 75 color drawings of hints for obtaining optimum service life from the equipment. Various maintenance practices are discussed in detail: proper track adjustment, importance of additive oils, use of the service meter lubrication, servicing cooling sys-

tems, etc. A list of general facts is given for starting and stopping tractors, purchasing fuels, stopping the diesel engine, making working adjustments.

Circle 181 on Reader Service Card

### Equipment For Miners

Equipment for mine and quarry transportation is pictured in Catalog A, produced by the Easton Car and Construction Company. Photographs and specifications of various dump trailers and combinations are included.

Circle 182 on Reader Service Card

### Records Retention Equipment:

Dolin Metal Products has issued a literature kit that gives complete descriptions of three lines of steel transfer files. This file equipment is designed for safekeeping of inactive records. The manufacturer claims mobility and increased capacity of storage.

Circle 183 on Reader Service Card

### Bakery Service Notes:

Crescent Metal Products, Inc., prints a monthly information sheet, "Cres-Cor

Circle No. 18 on Reader Service Card for more information

Circle 89 on Reader Service Card



### CHECK THESE CONVEYOR FEATURES!

- **HIGH REFLECTIVITY**—the high reflectivity of aluminum makes the Model G the ideal conveyor for use with radiant ovens for drying and heat treating operations.
- **SANITARY**—easily washed with steam or hot water.
- **JIG ASSEMBLY**—strong aluminum flights offer solid mount for jig assembly operations.
- **CORROSION RESISTANT**—where acid and moisture are a factor the aluminum construction offers acid and rust resistance.
- **PREFABRICATED** construction lends itself to simple assembly and installation.

**MERCURY INDUSTRIES, INC.**  
HILLSDALE, N.J.  
CONVEYOR DIVISION



WESTWOOD 5-2636

You can speed up your shipments with fewer people and eliminate costly errors

**HOW?** By improving your method of addressing labels, tags and cartons. Old-fashioned stenciling and labeling methods can seriously delay shipments as well as waste precious time and labor.

**FIRST STEP**—Send today for your free copy of this new comprehensive booklet that describes the latest systems for addressing labels, tags and cartons.

Your free copy is waiting  
Send for it today!



# Weber

**WEBER MARKING SYSTEMS**  
Div. of Weber Addressing Machine Co., Inc.  
Dept. 1-L  
Mount Prospect, Illinois  
SALES AND SERVICE IN ALL PRINCIPAL CITIES

Circle 141 on Reader Service Card for more information  
104

### ... USEFUL LITERATURE . . . USEFUL LITERATURE

Progress." Attached to the sheet are catalog pages that list information and photographs for such food and bakery equipment as: pastry cabinets, hand lift cabinets, steam table pans, food conveyors, etc.

Circle 184 on Reader Service Card

### Industry Progress Report:

"Engineering in Action" is the title of a publication issued by Allis-Chalmers which reports developments in its industries group in 1956. Improvements and innovations in manufacturing facilities, power generation, power distribution, mineral industries, etc., are published in this report.

Circle 185 on Reader Service Card

### Fork Truck News from England:

The first issue of the Conveyancer Quarterly News has been published by Conveyancer Fork Trucks Ltd. Its purpose is to establish closer contact with customers, both in England and overseas, by featuring handling applications articles. Readers are invited to contribute items of interest.

Circle 186 on Reader Service Card

### Mobile Radio Equipment Described:

A 38-page publication (ECR-497) from the General Electric Communication Products Department gives the complete story of two-way mobile radio equipment from both technical and appearance viewpoints. A wide range of equipment designed to fit individual needs (based on FCC rulings) is shown. Sections on "What's inside the case," power, frequency, bandwidth, voltage, remote and repeater operations, and descriptions of cases, cabinets, and mountings.

Circle 187 on Reader Service Card

### 10,000 Casters:

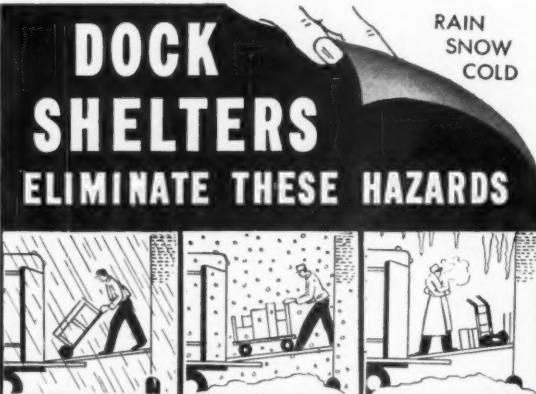
A four-color catalog issued by the Colson Corporation contains descriptions of 10,000 industrial and institutional casters and 500 different types of handling equipment. This new catalog is designed to consolidate and replace a number of older catalogs, according to a company spokesman. For easy reference, products have been classified into four major areas, each indicated by a color code.

Circle 188 on Reader Service Card



#### NEW BOOKLET TELLS:

- How to evaluate efficiency of shipment addressing operation
- Modern systems for addressing labels and tags
- The latest direct-to-carton stenciling systems
- Integrated shipment addressing, the newest trend in order-processing



• Damaged merchandise, unsafe dock conditions, and lost man hours due to illness . . . that's what rain, snow, sleet, and cold can do to your unprotected rail and truck docks. The direct results to you are increased merchandise claims . . . higher costs . . . LOWER PROFITS. Now you can . . .

#### Get Automatic Dock Protection In Seconds With

##### CAR-DOX

All-weather dock protector controls temperature, speeds loading, unloading. Heavy-duty industrial fabric over heavy galvanized steel frame. Custom-built to fit any size rail, truck dock. Operates automatically for protection in seconds.

WRITE for free catalog  
samples of fabric.



**FROMMELT**  
**FROMMELT INDUSTRIES**  
DUBUQUE, IOWA  
A Name To Remember In Safety Products



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FLOW



*announcing THE NEW*

# DIAMOND GARDNER

CORPORATION

*a merger of THE DIAMOND MATCH COMPANY and THE GARDNER BOARD AND CARTON CO.*

This merger, completed on October 31, 1957, comes as a natural step in the diversification of both companies, with distinct advantages to each. Long known as a leading manufacturer of matches, Diamond's production, today, includes lumber and lumber products, many woodenware items, and a wide range of molded pulp and paperboard products now accounting for the largest percentage of its operations. The company has an unbroken record of quarterly dividend payments since its organization 76 years ago . . . has forest reserves of over 376,000 acres . . . and reported sales in 1956 of \$134 million.

The 57-year-old Gardner Company is a producer of paperboard and cartons for more than 1600 important manufacturers and wholesale and retail merchants. Sales in 1956 were \$36 million. For many years much of the paperboard used to make and package Diamond matches has been supplied by Gardner. Both companies depend on the same source of raw material—the forests. The products of both companies, although entirely different, complement each other: Diamond in molded pulp; Gardner in paperboard.

Gardner's research has been responsible for many pioneering developments; Diamond's research has made steady progress toward full commercial utilization of wood fibers. The new corporation's able management, specialized technicians and sales personnel will contribute materially to its growth.

**important facts about the new**  
**DIAMOND GARDNER CORPORATION**

Combined 1956 sales \$170 million.

Combined total assets \$141 million.

Combined working capital \$52 million.

A diversified business—approximately 47% of combined production in molded pulp and paperboard, 23% in retail yards and stores, 17% in matches and woodenware, 13% in lumber production and mill sales.

11,000 employees in 27 manufacturing plants, 10 sawmills, 88 retail stores and lumber yards.

A current \$32 million expansion and modernization program.

A dynamic growth potential in diversified forest products.

**SOME DIAMOND GARDNER PRODUCTS:**



"Foodtainers"®—molded pulp containers for prepackaging meat and produce for America's 27,000 self-service markets.



Custom cartons—multi-colored packages for over 1600 customers in soap, tobacco, food, beverage, pharmaceutical and other industries.



Egg cartons—molded pulp and paperboard retail containers for egg packers, large and small.



Retail folding boxes.



Corrugated shipping containers.



Disposable paper plates, pie plates and cake circles.



Matches—all types of paper and wooden matches.



Lumber—wholesale and retail.



"Neet-Heet"®—self-starting charcoal briquet packages.



Woodenware—toothpicks, clothespins, ice cream confection sticks, etc.



Paperboard—53% of 150,000 tons annual capacity is used for cartons and folding boxes, the remainder sold as paperboard.



Containers for milk and dairy products, produced by an affiliate.

DIAMOND GARDNER CORPORATION • 122 East 42nd Street, New York 17, N. Y.  
 Circle No. 156 on Reader Service Card for more information

DECEMBER, 1957

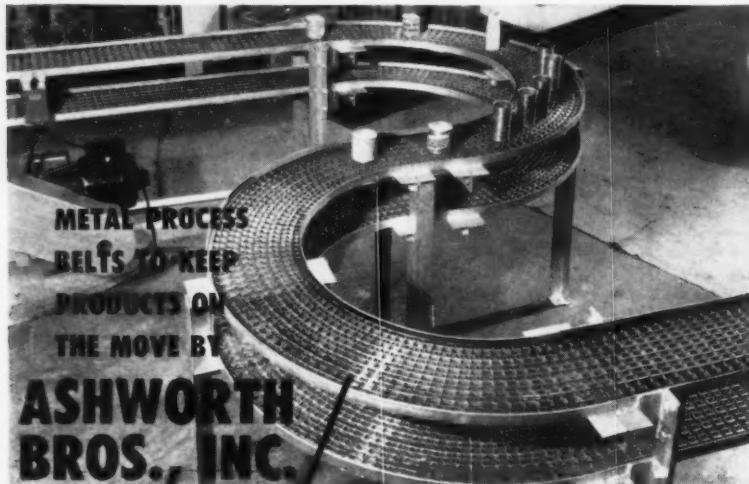
Circle No. 10 on Reader Service Card for more information

NEW

Economical . . . Flexible

## OMNI-FLEX® BELT by ASHWORTH

Let your production move around corners on the new, low cost Omnidex belt. Short turning radius • light weight • easily installed • low maintenance factor



WINCHESTER, VIRGINIA

SALES ENGINEERS:

Illustrated literature available, specify catalog M12.

Atlanta • Baltimore • Boston • Buffalo • Charlotte, N.C. • Chicago • Cleveland • Dallas • Detroit • Fall River, Mass. • Greenville, S.C. • Louisville • New York • Philadelphia • Pittsburgh • Rochester • St. Louis • St. Paul • San Francisco • Tampa • Canadian Rep., Peckover's Ltd., Toronto • Montreal

**LANHAM**  
FOR LIFETIME

## SKID PLATFORMS

**SECTIONAL BINS**  
**SKID BOXES**  
**and ACCESSORIES**  
**meet your**  
**exact needs**

WRITE FOR  
CATALOG NO. LSAP-56

**THE LANHAM SKID CO.**  
729 On The Mississippi River, Keokuk, Iowa

LANHAM MAKES ALL KINDS OF SKIDS AND ALLIED PRODUCTS

Circle No. 129 on Reader Service Card for more information

106

## • • USEFUL LITERATURE

### Equipment Builders Aids Community:

Lead story in a recent issue of the Clark News, published by Clark Equipment Company, tells how its equipment was used for a "landfill" operation in the plant city. Other articles deal with special problems solved by industrial truck applications and new developments in this field.

Circle 189 on Reader Service Card

### Describes Load Cell Systems:

The "Sensator" hydraulic diaphragm which imparts smooth, trouble-free operation to tension and compression load cells is featured in Bulletin M-27 available from the Martin-Decker Corporation. Specifications for the SL Series (tension loads) and SW Series (compression loads) of cell systems are given, as well as applications of both types.

(Also reviewed in November)

Circle 190 on Reader Service Card

### Crane Acts In Movie:

A Hydrocrane is the star of "Hydro-Magic," a 23-minute, 16mm sound-color film available for circulation from the Bucyrus-Erie Company. The crane goes through such paces as corking a bottle, cracking eggs, swinging a pyramid of water-filled goblets on a steel slab. Other, more practical, applications of crane attachments are shown in the film.

Circle 191 on Reader Service Card

### Mechanized Handling News:

The Link-Belt Company publishes a newspaper, Link-Belt News, which specializes in articles on mechanized handling and processing of materials and the mechanical transmission of power. Handling problems solved by conveyor lines, new designs in loading systems, chain-driven equipment—these are representative subjects.

Circle 192 on Reader Service Card

### Choosing Truck Power:

Choice of motive power for industrial trucks is a subject covered in the Fall Issue of The Lift, published by Elwell-Parker Electric Company. The 5-page article lists advantages and limitations of gas versus electric power, and provides prospective users of industrial trucks with an 11-point check list (based on specific plant operating conditions) to consider before buying. Charts which cover cost of ownership, hourly operating costs, and overall operating costs are included.

Circle 193 on Reader Service Card

FLOW

# new

## Yale TRIPLEX\* mast

### Gives you full use of storage space —low headroom clearance

With Yale's new Triplex mast you can lift loads as high as 17'6" ... add vertical storage space to your present warehouse facilities without increasing overall height of truck. Same truck can operate in low headroom areas and still provide high stacking. Furthermore, this mast features a new, improved, interlocking I-beam construction that provides greater load stability during stacking operations. Yale's newly designed multi-stage, double-acting lift cylinder operates under low hydraulic pressures ... assures smooth lifting action under all load conditions.

### Gives operator maximum visibility

New Yale-developed features give the driver all the forward visibility he needs for fast, safe operation of truck. The two single lifting chains leave plenty of unobstructed space between the hoisting cylinder and I-beams. The lifting cylinder itself is short and provides extra open space below the channel cross members. Yale triple lifts are available with maximum fork-lift heights of 108", 144", 180", 198" and 210". In the down position, they give trucks overall heights of 59", 71", 83", 90" and 96" respectively. Capacities: 3,000, 4,000 and 5,000 lbs. For complete information, write The Yale & Towne Mfg. Co., Philadelphia 15, Pa., Dept. A-412.

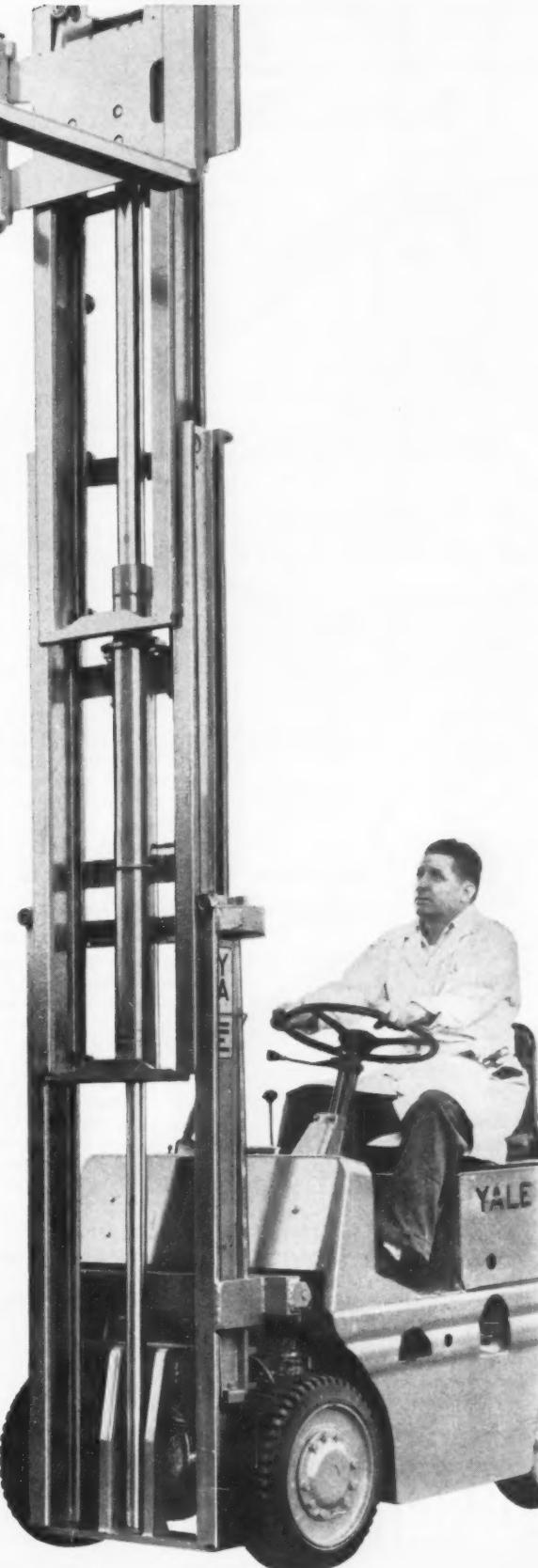
**YALE**  
INDUSTRIAL LIFT TRUCKS  
AND HOISTS

Gasoline, Electric, Diesel & LP-Gas Industrial Lift Trucks  
Work savers • Warehouses • Hand Trucks • Hand and Electric Hoists

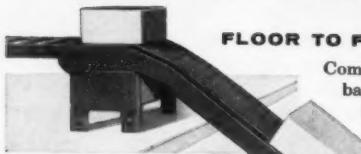
\*REG. U. S. PAT. OFF.

Circle No. 154 on Reader Service Card for more information

DECEMBER, 1957



# Olson Conveyors Move Material Faster...Safer...at Lower Cost



## FLOOR TO FLOOR INCLINA-VEYOR

Complete, self-contained unit, designed to move bags, boxes, cartons up or down between floors. Feeder section at bottom transfers bags, cartons, etc. from roller belt conveyor without handling. Double nosed-over end at top discharges or receives containers without teetering. Easily installed at angles from 22° to 34°. Motor switch reverses belt travel. Lengths from 21 to 35 ft. 10 day shipment.

### STANDARD FEATURES:

- High Capacity...150 lbs. per package; 400 lbs. total load
- BELT SPEED—65 ft./min.
- HEAVY DUTY construction throughout
- 14" Belt Width; 20" bed
- LARGE DIAMETER Drive Pulley
- CONTINUOUS DUTY—220/440 V. 60 cycle motor; other types available.



## WORKMASTER HORIZONTAL BELT CONVEYOR



A rugged unit, extremely stable on strongly braced supports. Ideal for use as power booster in long gravity conveyor lines. Lengths from 11 ft. to 61 ft. 10 day shipment.



### STANDARD FEATURES:

- REVERSIBLE 14" HEAVY DUTY BELT
- ADJUSTABLE HEIGHT from 24" to 36" at each end
- 65 feet per minute belt speed
- ENCLOSED MOVING PARTS
- CONTINUOUS DUTY MOTOR—110/220 V. 60 cy.

## WHEEL CONVEYORS STEEL OR ALUMINUM

### A complete line... Standard or Special Types PROMPT SHIPMENT FROM STOCK

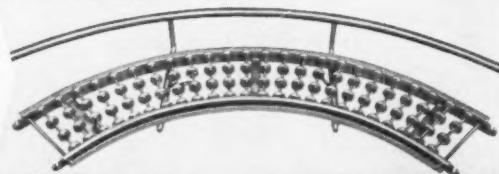
Lightweight steel or ultra-lightweight aluminum conveyors by Olson are highest quality at competitive prices. Designed and built by conveyor specialists to give maximum service. Anti-friction ball bearing wheels with specially hardened raceways roll so easily that a drop of only  $\frac{1}{4}$  to  $\frac{1}{2}$  inch per ft. is enough for most jobs. Standard 10 ft. sections in 12" or 18" widths have quick connectors for assembling long runs. Available with all standard wheel spacings.



- Complete line of accessory equipment—Adjustable Stands, Easy Rolling Supports, Package Stops, etc. available.

## REVERSIBLE CURVED SECTIONS

Olson Reversible Curves for 45° and 90° turns are available in steel or aluminum, have adjustable guard rails. Turning curve end-for-end in the conveyor line reverses curve.



Write for complete catalog of Olson Belt, Roller and Wheel Conveyor Units. There's no obligation.

# OLSON CONVEYORS

SERVING AMERICAN INDUSTRY SINCE 1900

SAMUEL OLSON MFG. CO., INC.  
2429 BLOOMINGDALE AVE.  
CHICAGO 47, ILLINOIS  
Offices in Principal Cities

Circle 101 on Reader Service Card for more information

108

## ... USEFUL LITERATURE

### Automatic Marking Machine:

Production parts in automated production-assembly lines can be controlled numerically by the use of an automatic marking machine, states a two-page bulletin (SM57) released by New Method Steel Stamps, Inc.

Circle 194 on Reader Service Card

### How To Roller-Stencil:

Selecting the proper rollers and ink for specific stenciling operations is part of the instructions given in a pamphlet offered by Diagraph-Bradley Industries, Incorporated. "The Rol-It-On Story" traces the history of the stencil industry, the introduction of the roller process, and the many and varied modern applications of the process.

(Also reviewed in November)

Circle 195 on Reader Service Card

### Provides Product Presentation:

"Presenting the Gar Wood Line" is the title of a booklet published by Gar Wood Industries, Inc. Some of the equipment offered: dump trucks, dippers, excavators, cranes, refuse collectors, tractors, and winches. The machines are photographed in action.

Circle 196 on Reader Service Card

### Skids, Pallets And Boxes:

A 3-page bulletin issued by Fab-Weld Corporation illustrates the company's line of skids, pallets, boxes, and drop-bottom boxes. Specific applications of the units can be determined from individual photographs.

(Also reviewed in November)

Circle 197 on Reader Service Card

### Engine Information:

"Engineins" is the name of a pamphlet produced by the Wisconsin Motor Corporation. A recent issue carried the story of road machinery which celebrated a half century of continuous service. New and unusual engine-driven equipment is featured in other articles.

Circle 198 on Reader Service Card

### Need Any Labels Glued?

An information sheet (M-1) has been issued by King Sales and Engineering to provide data on the Model M strip gluer. This unit applies adhesive in single or parallel strips to any thin, flexible material. It has applications in the printing, bottling, canning, chemical, and paint industries.

Circle 199 on Reader Service Card

FLOW

Circle 34 on Reader Service Card for more information

## AWAITING YOUR ORDERS!



### FORGING DIVISION

Featuring:

Smooth

Hammered

Forgings For All Industries . . .

- Rings, Discs, Hubs
- Blocks, Bars, Shafts and Special Shapes
- Tool Steels and
- Alloys
- Electrically Welded Composite Die Sections



### WELDMENT DIVISION

Specialists in:

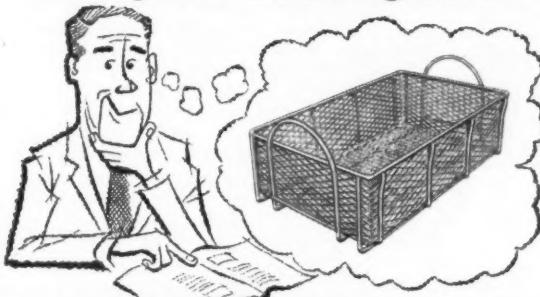
- Steel Plate Fabrication
- Complete Machining Facilities
- Construction & Assembly of Automation Components & Special Machines.
- Normalizing Facilities

## COMPOSITE FORGINGS, INC.

2300 W. JEFFERSON, DETROIT 16, MICH.

Phone TAshmoo 5-3226

## Looking For A Way to cut small parts handling costs?



### EEZY-STAK BASKETS STOP EXTRA HANDLING, SPEED PARTS PROCESSING . . . REDUCE COSTS!

Here's how one manufacturer solved costly, time-consuming, small parts handling. Using EEZY-STAK standard wire baskets, a complete series of parts transfer operations was eliminated. Result: Five production processes now performed in one basket—degreasing, drying, pickling, rinsing, cyaniding—plus storage, *without parts removal!*

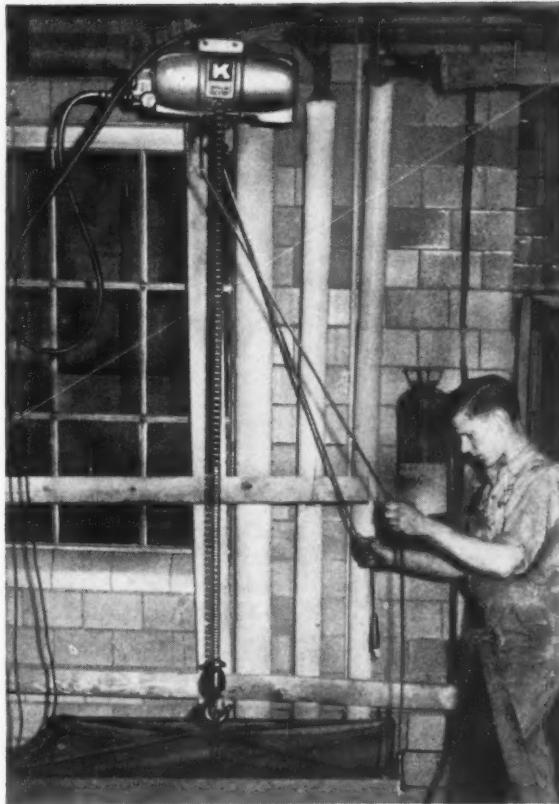
EEZY-STAK baskets have the exclusive, patented *interlock* handle, for easy stacking and compact storage. Open mesh construction. Full visibility . . . quick drainage . . . clean! From initial production to final assembly, EEZY-STAK baskets put small parts handling on an economical, low-cost basis. Cut Costs! Investigate the advantages of EEZY-STAK baskets for your plant!



Write today for Bulletin No. B-54 to  
Wire & Iron Products Inc., 1720 Sixteenth Street, Detroit 16, Michigan.



Circle 144 on Reader Service Card for more information  
DECEMBER, 1957



With an unlimited variety of uses, this Keller Tool air hoist speeds production—safely and efficiently.

## Here's your "air lift" for 50- to 4000-pound loads

Wherever you have air power, compact Keller Tool air hoists provide a swift, steady lift—with gentle starts and accurate stops—for loads from 50 to 4000 pounds.

Stops and starts—day after day—won't cause motor burnouts that curb production. These hoists are powered by Keller Tool axial piston air motors that *can't burn out*.

Lightweight, relative to their lifting capacities, these handy air hoists are easy to move and install. All sizes are furnished with roller or link chain except 150-pound model, which is equipped with wire cable.

Check the table below for the capacity you need . . . then check with your Gardner-Denver representative or write for Bulletin 86.

Model	Capacity	Speed	Weight
86-2V40	4000 lb.	10 f.p.m.	100 lb.
86-2V20	2000 lb.	19 f.p.m.	78 lb.
86-2V10	1000 lb.	38 f.p.m.	78 lb.
86-1V10	1000 lb.	19 f.p.m.	28 lb.
86-1V5A	500 lb.	38 f.p.m.	28 lb.
86-1V3	300 lb.	80 f.p.m.	28 lb.
86A-1	150 lb.	45 f.p.m.	14 lb.



ENGINEERING FORESIGHT—PROVED ON THE JOB  
IN GENERAL INDUSTRY, CONSTRUCTION, PETROLEUM AND MINING

**GARDNER - DENVER**

Gardner-Denver Company, Quincy, Illinois

Circle 57 on Reader Service Card for more information

## No handling freeze-up here...



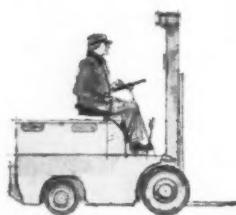
Increased work loads in busy warehouses throughout the country demand almost continuous electric truck availability—leave less room than ever for downtime. That's why the makers of EDISON storage batteries—the world's longest-lived batteries—have added greater durability and service life with a new active material.

In addition to their tough, all-steel cell construction, EDISON batteries now offer electrical durability that can't be matched even by the standard EDISON long-life battery for day-in, day-out performance and long-term economy. Test after test proves that EDISON storage batteries with the new active material cost less than ever to own and operate.

Today, there's an EDISON battery with the new active material for your increasing materials handling needs—from small walkies to big ram trucks. On your next electric truck purchase, ask your truck agent to include an EDISON battery—and compare true value. For complete information, see

your EDISON man, or write EDISON Storage Battery Division, Thomas A. Edison Industries, West Orange, N. J. In Canada: International Equipment Co., Ltd., 90 Bates Road, Montreal, P. Q.

### *The truck that never lets you down is electric*



Material-handling experts have found that freedom from sudden breakdown enables three battery electric trucks to do the work of four or more trucks with other power sources. For dependable material handling, your most economical combination is a trouble-free electric truck powered by an EDISON battery.

### **Edison** NICKEL-IRON -ALKALINE Storage Batteries

...a product of Thomas A. Edison Industries of



Circle No. 88 on Reader Service Card for more information

### ... USEFUL LITERATURE

*Continued*

#### How Automatic Loading Works:

"Man-O-Steel Michigan Automatic Loader" is the title of a brochure supplied by Michigan Crane & Conveyor Company. Metered loading is described in detail and case histories of user benefits mentioned. Sample dimensions of common loaders designed for automatic loading are charted in the publication.

*(Also reviewed in November)*

Circle 200 on Reader Service Card

#### Hydraulic Crane Operation:

The Grove Manufacturing Co. demonstrates its hydraulic yard crane in a 4-page bulletin. In this unit, the load line operates solely by hydraulic ram within the boom. According to the manufacturer, hydraulic operation is safe operation, with lifting strength double the rated capacity. No part passes over the operator's head. Capacity load may be lifted even when boom is completely lowered.

Circle 201 on Reader Service Card

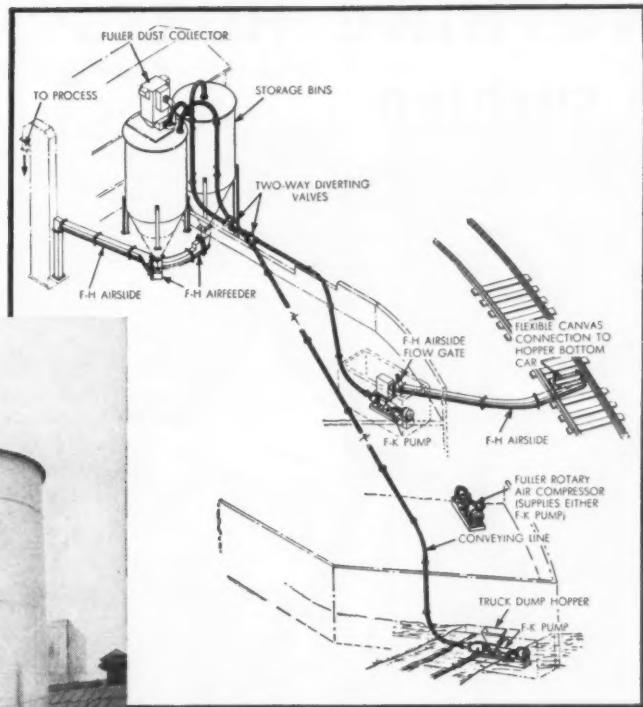
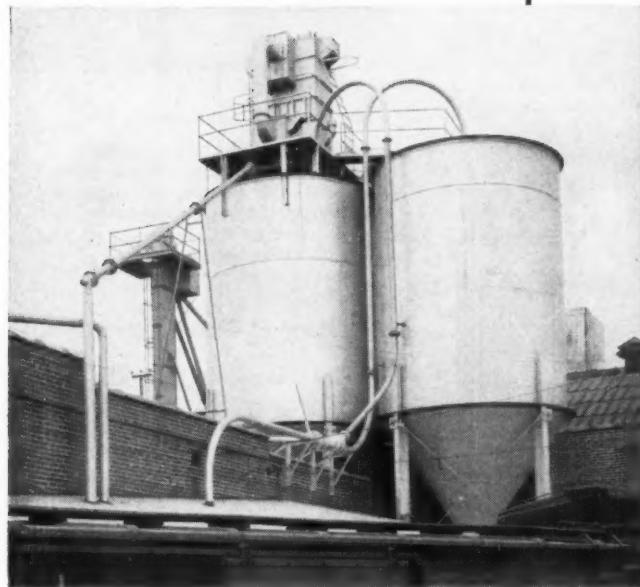
#### Guide for the Latest in Television Equipment:

A comprehensive, illustrated guidebook to latest RCA broadcast equipment and systems for color and black-and-white closed-circuit television service in medical, educational, industrial and business fields is available from the Broadcast and TV Equipment Department, Radio Corporation of America. It employs color and monochrome photographs, diagrams, and sketches to describe the nature and applications of RCA's broad line of closed-circuit TV equipment.

*(Also reviewed in November)*

Circle 202 on Reader Service Card





## Unloading and Conveying System By **FULLER**--- Pays Off In Lower Operating Costs for *Certain-teed*

A few years ago, Certain-teed Products Corporation decided to find, if possible, more economical methods of operation in its York, Pa. plant. One problem given serious consideration was the handling of incoming limestone and slate filler dust received in bags, requiring costly, manual labor, resulting in breakage of bags with consequent loss of material and a dusty condition in the plant.

Together, Certain-teed and Fuller engineers made studies of their layout and came up with a solution—a combination of the Fuller-Kinyon Conveying System and F-H Airslides®.

Two Fuller-Kinyon Pumps are used. One conveys limestone dust from hopper-bottom cars, utilizing the Airslide to convey from cars to the pump located in a pit in the plant. This pump conveys to either one of the two storage bins . . . efficient, clean, rapid transfer from cars to storage. The other pump handles the slate dust, delivered in trucks, also conveying to storage. Withdrawal of either material from storage bins is accomplished with Airslides, which discharge to an elevator delivering to process.

Air for the pumps is supplied by a Fuller Rotary Single-stage Compressor, having a capacity of 482 c.f.m. at 20-lb. pressure.

Low-pressure air, for the Airslides, is supplied by a small blower.

It is reported that the savings realized by the use of this Fuller system has paid for the installation in less than two years of operation.

Possibly your materials handling is antiquated and costly, which could be remedied by a comparatively small investment. Fuller's 30 years experience in pneumatic conveying of dry bulk materials can very well bring about substantial savings in your plant's operation. Why not write today for further information? No obligation at all.



# Fuller

...pioneers in harnessing AIR

Circle No. 56 on Reader Service Card for more information

DECEMBER, 1957

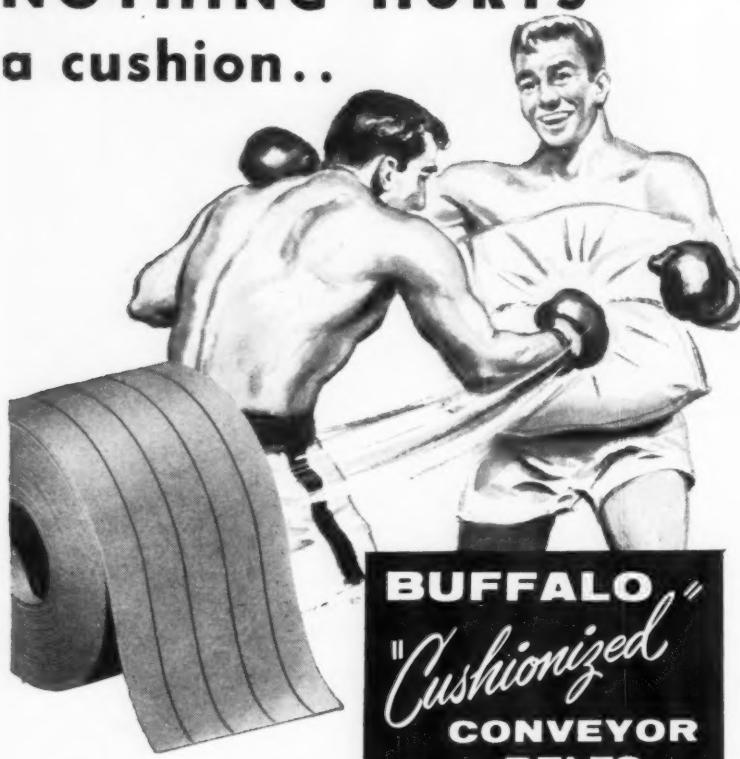
**FULLER COMPANY**

164 Bridge St., Catasauqua, Pa.

SUBSIDIARY OF GENERAL AMERICAN TRANSPORTATION CORPORATION  
Birmingham • Chicago • Kansas City • Los Angeles • San Francisco • Seattle

G-170  
4424

# NOTHING HURTS a cushion..



## BUFFALO "Cushionized" CONVEYOR BELTS

You can take the hardest blow to the "bread basket" with a grin if the punch is "cushionized". That's true of conveyor belts, too! If they're made of hard, rigid, plied-up material, they resist impact and consequently wear out too soon!

"Cushionized" Buffalo Belts are tightly woven from the toughest cotton yarn available and have a "bouncy" reaction to IMPACT and ABRASION. Drop heavy objects on a Buffalo Belt all day long, day in and day out and see the difference. Nothing normal DIGS, DENTS or DESTROYS these belts, except OLD AGE itself! They're bouncy, tough and PLIABLE! If your conveyor is bumpy or out of line, Buffalo Woven Belts, ALIGN THEMSELVES. If they come to a rough or bumpy spot in the line they just MOLD themselves AROUND it and keep on going. Nothing hurts these Buffalo Belts because they're CUSHIONIZED. Next time you order belts... buy the "bounce that counts" . . . buy Buffalo! They LAST LONGER . . . COST LESS!

200	SIZES
35	WIDTHS
7	THICKNESSES

### 6 SPECIAL SURFACES

In addition to Buffalo's regular woven belt, which is ideal for most conveying jobs, we also COAT this basic belt SIX DIFFERENT WAYS to meet SPECIAL REQUIREMENTS. Whether you need a belt to resist weather or water; acids, oils, grease or alkalies; highest or lowest temperatures or to handle dainty pure foods or just plain rough and tough material . . . we have a belt, specially surfaced to handle the job.

### BUFFALO WEAVING & BELTING CO., INC.

202 CHANDLER STREET  
NEW YORK PHILADELPHIA CHICAGO DETROIT LOS ANGELES

We also manufacture a complete line of WEBBINGS and PURE SHEET RUBBER.

Circle No. 22 on Reader Service Card for more information

112

## ... USEFUL LITERATURE

*Continued*

### Considering Conveyors?

When conveyor installation is considered, the particular advantages of both engineered systems and standardized units should be studied, states a bulletin from Standard Conveyor Co. The characteristics of engineered systems (gravity conveyors, power-driven conveyors, pneumatic tubes) are explained with text and photographs, as are the characteristics of standardized power and gravity units.

Circle 203 on Reader Service Card

### Handling Magazine:

Towmotor Corporation publishes a magazine, "Handling Materials Illustrated", which provides information on handling operations and equipment. Articles compare "old" versus "new" material handling techniques employed by companies in various types of business and industry.

Circle 204 on Reader Service Card

### Codes Complete Packets:

Labels of all sizes and shapes—including round and oval—can be coded in packets of 500 or more with the CodeMark II coding and dating machine. This internationally known machine is distributed in the U. S. by Griffin-Rutgers Inc. It may be used for coding labels, cartons, bags, etc. Changing the code marking is simple, and operation takes no skill. A new bulletin describes the unit.

*(Also reviewed in November)*

Circle 205 on Reader Service Card

### Collection of Conveyor Information:

The Power-Curve Conveyor Co. offers a binder containing illustrated bulletins, engineering drawings of assemblies, operation and maintenance instruction pages, sketches of applications, and equipment photographs. A truck and box-car loader, a bag flattener, a bag pallet loader, and a bag elevator are some of the pieces of equipment featured.

Circle 206 on Reader Service Card

### ... Where Credit Is Due

In the November issue of FLOW, an article on electronic weighing ("How Electronics Keep Truck Loading Under Control") was published without proper credit to the Streeter-Amet Company for the information and photograph. We apologize for the oversight, and thank Streeter-Amet for the article data.

FLOW

# Only New HALLOWELL ERECTOMATIC® Steel Shelving

has a time-saving, positive built-in lock—plus these features:



**FAST ASSEMBLY.** Just position the shelf supports, insert the shelf, press the locks. Straight-in, straight-out shelf change. No tilting. No dismantling. No interference with any other shelf.

New Hallowell ERECTOMATIC® steel shelving goes up fast, can be rearranged in seconds. It's the unique built-in locking device\* that cuts assembly time, speeds repositioning of shelves. Here's how easy it is! To position a shelf—slide it into place on the shelf supports, press the locks, and the job is done. To reposition a shelf—release the locks, pull the shelf straight out, slide it straight in on the supports at its new location, and press the locks. It takes only seconds to complete the move.

New Hallowell ERECTOMATIC steel shelving is available in all types, too. Open, closed, bin units, ledge units, counter units, and cabinets are made of prime steel, phosphate coated, and finished in baked-on enamel. Standard is SPS green, other colors are available.

Investigate new Hallowell ERECTOMATIC before ordering shelving. You'll find it stocked by leading industrial distributors and shop equipment dealers everywhere. Contact the one nearest you. Or write Hallowell Shop Equipment Division, STANDARD PRESSED STEEL Co., Jenkintown 49, Pa.

\*Patent applied for



**QUICK SHELF CHANGE.** Release the locks, remove the shelf and its supports, relocate, and press the locks.



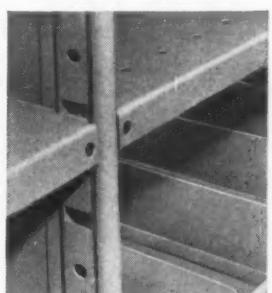
**INDEPENDENT SHELF POSITIONING.** Each shelf can be individually repositioned in seconds.



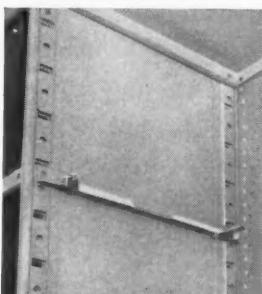
**FULL USE OF SHELF AREA.** No tees or angles, and beaded posts save valuable space.



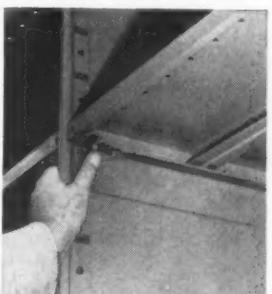
**COMMON SIDE PANELS AND POSTS** save material between adjacent units in rack. Back and side panels are one-piece.



**BEADED POSTS AND FLANGED SHELVES** prevent snagging of clothing or stored goods, protect workers.



**FULL DEPTH SHELF SUPPORT.** No buckling possible. Reinforcements can be added when they are required.



**4 CLASSES OF SHELVES.** Regular, medium, heavy and extra-heavy construction meets all load requirements.

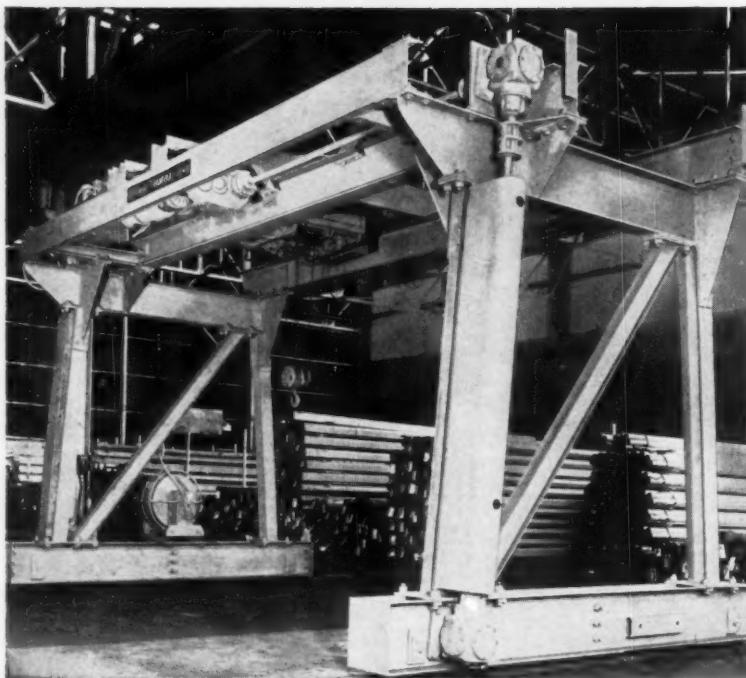
**HALLOWELL** **SHOP EQUIPMENT DIVISION**

**STANDARD PRESSED STEEL CO.**

**SPS**  
JENKINTOWN PENNSYLVANIA

Circle No. 124 on Reader Service Card for more information

DECEMBER, 1957



## CHICAGO TRAMRAIL GANTRY CRANES

At the modern plant of one of the country's largest aluminum companies, Chicago Tramrail Gantry Cranes handle long extruded pieces from a 14,000-ton extrusion press . . . transfer these pieces to other operations throughout the mill.

Fourteen Chicago Tramrail Full Gantry Cranes provide individual handling equipment for individual operations to eliminate waste time waiting for busy overhead cranes. Designed for heavy-duty, continuous service, these Gantry are built with maximum headroom and maximum clearance between legs to operate independently under the large overhead cranes.

For a practical, economical solution to your materials handling problems, see our experienced engineers. Special designs, sound engineering and broad application knowledge qualify us for helpful service.

## CHICAGO TRAMRAIL CORPORATION

1322 S. Kostner Avenue

• Chicago 23, Illinois

Circle No. 28 on Reader Service Card for more information

### IMPROVED STORAGE . . .

(Continued from page 72)

As wheels are needed, they are brought to assembly benches by powered belt conveyors and chutes to the assembly point. Steel and aluminum wheels are handled by two separate systems. Most of this feeder equipment is ceiling-mounted to free floor space. Wheels may travel as much as 300 feet to reach an assembly area, where work benches are located below the two conveyor lines. Gates and chutes divert either type of wheel to an individual bench upon demand of the assembler.

#### Perimeter Supply:

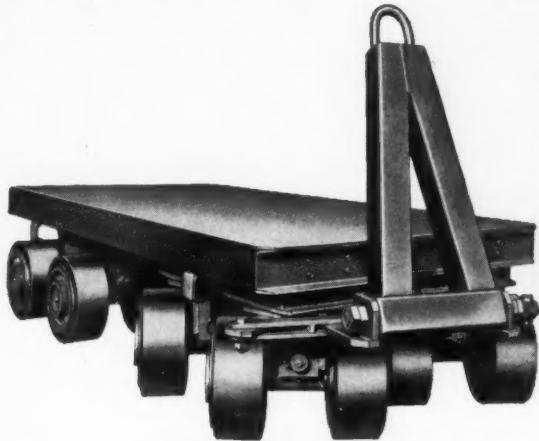
*The object of this principle is to keep out of a department those who do not work there. Moving materials in and out of an area causes disruption and inefficiencies. Departments are so organized that all supplies are around their perimeters, available on equipment serving as work positioners. Charging sides are accessible through adequate aisle systems.*

An example of this, as well as a great space economy, is shown in the storage of steel shapes and conveyor side channels. With live-storage racks, area required for inventory of these is only 400 square feet. As parts come from the roll-form machine, they are bundled and placed on special steel pallets. They are conveyed to the storage area and transferred to 6-tier, conveyorized racks by means of a semi-automatic elevating and transfer device which places them into proper hatch openings. The rack feeds directly to the frame assembly operation so that workmen need scarcely move from their benches to obtain material they desire.

#### Standard Containers:

*Size and type of container are as important as anything else in material handling. Left-over drums, baskets, or worn out boxes should not be used. A few standard containers designed for the job are a good investment. Without good standard containers, other*

# Handle heavy loads safely



**Phillips**

## Heavy Duty Trailers

Phillips heavy-duty trailers are designed to safely and economically haul hot metal, ingots, slabs, plate, coils, bar stock, pipe, scrap and other products requiring in-plant handling.

Built in load-handling capacities from 6000 to 250,000 lbs., the Phillips trailers feature such advantages as front or front and rear axle fifth wheels for better steering, articulated axles, synchronized steering, Timken wheel bearings, solid or pneumatic tires, and 4, 8, or 16-wheel models.

They can be used singly or in tandem, the length of trains being limited only by the tow tractor. For good load stability, good roadability, safety, peak operating performance, and low initial cost with a minimum of maintenance, specify Phillips trailers.

**SALEM-BROSIUS, INC.**

13 Arch Street • Carnegie, Pa.

PHILLIPS MATERIALS-HANDLING EQUIPMENT

Manufacturers Since 1863

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DECEMBER, 1957

## TOUCH and GO!

Materials Handling



Two versatile, power-propelled Walkie-Worklifters handle a variety of transporting and stacking chores at the Minneapolis-Honeywell plant in Morton Grove, Ill.

## Walkie Worklifter

Up and away—quickly, safely—even on lightly rated floors and elevators, and in narrow aisles. Compact Walkie-Worklifters are ideally suited to touch and go transporting and stacking jobs because they are designed specifically for such intermittent use. Anyone can operate a Walkie-Worklifter; a single push-button in the steering handle controls forward and reverse travel. The brake is applied automatically when the operator releases the steering handle or pulls it forward to braking position. Push button lift control is on a 12 foot extension cord with Reelite cord holder, for control of load from the floor; or, the operator may ride up with the load when filling orders or checking stock.

Mast, battery compartment and drive unit add only 30" to load length. The short base, combined with 180° turning radius permits right angle stacking in aisles as narrow as 66" with 36" x 36" pallets. Heavy duty diesel type battery and built-in selenium rectifier charger are furnished as standard equipment. Capacity range is 1000 lbs. to 2000 lbs., based on 18" load center. 120 standard models include lifting heights up to 120" and base widths up to 57".

Walkie trucks transport and stack loads in light floor areas and move inter-floor on limited capacity elevators. They save time—recover their low initial cost in months. Operating cost is small—a few cents per day to re-charge the batteries.

### TYPICAL USER EXPERIENCES

"... has serviced us well, savings all along the line; time, manpower, etc." Frank Gilchrist, Cullen Company, Chicago.

"... loading drums on to freight cars saves us a half day for each car for two men and a truck." Paul Angell, Pres., Newly Weds Baking Co., Chicago.

"We are very pleased with our Walkie-Worklifter... a big help in material handling in our warehouse." Henry Solomon, Lion Knitting Mills Co., Cleveland.

Write for current Lift Truck bulletin or refer to your Sweet's Engineering File 1A-EC. Our local representative will be glad to discuss this unique truck with you at your convenience.

**ECONOMY**  
**ENGINEERING**

4524 W. Lake St., Chicago 24, Ill.

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# Ask Standard

how to  
cut costs with  
conveyors



## Dallas department store slashes time lag between receipt and sale of goods

In 1955, Titche-Goettinger modernized their receiving and shipping departments with Standard Roller Conveyors. As in so many other cases, the move is paying off handsomely—in terms of simplifying handling and storing, in time and manpower savings. Based on two years' operation, here's Traffic Manager L. V. Nicewarner's evaluation...

There has been absolutely no maintenance problem, and the equipment will undoubtedly be in as good condition ten years from now as it is today. And through its use, we've been able to implement a more orderly procedure for the careful checking and marking of incoming merchandise and reduce the time lag between the receipt and sale of goods. We're well pleased with the equipment and its installation.

*L. V. Nicewarner*  
L. V. Nicewarner  
Traffic Manager

It pays to put Standard's 50 years of conveyor building and application experience to work in your business...get a system job-tailored to your specific needs. STANDARD CONVEYOR COMPANY. General Offices: North St. Paul 9, Minnesota. Sales and service in principal cities.



Call the Standard engineer listed in your classified phone book or write direct. Ask for Bulletin 68, address Dept. A-12.



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116

## IMPROVED STORAGE

*Continued*

principles are practically worthless. They are the first step toward the establishment of live storage.

Standardized containers make possible the handling of large unit loads of small parts to point-of-use storage. Such parts as wheel spacers, nuts, and axles are handled by a fork truck transfer unit like that for motors. Here, four decks of live storage are positioned to match the supply end of storage racks, thus eliminating nearly all manual effort.

### Use Of Air Rights:

There is as much ceiling in any plant as there is floor. Use it. There is mechanical equipment on the market to make upper space as convenient and valuable as the floor.

Die storage was a particularly big space consumer at Rapids-Standard, as it is in most metal fabricating plants. Dies weighing from 200 to 800 pounds were set on heavy benches four or five feet high; an inventory of 165 dies took 285 square feet of floor.

The combination of live storage and a transfer unit to handle dies in and out of it reduced floor area to 85 square feet and eliminated almost all muscle work. The conveyorized rack, 40 inches deep with 91 storage hatches arranged 7 tiers high by 13 wide, extends to the 18-foot ceiling. Capacity of each hatch is 1000 pounds. One to three dies are stored on thin steel pallets. A slope of  $\frac{1}{2}$  inch allows a pallet to slide into the bay and rest against a stop.

The transfer unit is essentially a vertical lift mounted on a monorail traversing the aisle serving the die storage bank. The lift platform has sections of wheel conveyor to match those of the rack and incorporates a powered push-pull mechanism. The operator works the transfer, from the floor, by dial and push-button. Each rack bay is designated by letter and number, which the transfer locates. When the platform is in position,

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# WRIGHT HOISTS & CRANES ACCO

## FOR LONGER LIFE • EASIER MAINTENANCE LOWEST FINAL COST



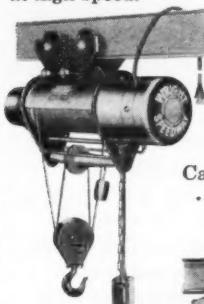
### WRIGHT SPEEDWAYS

Available with single, 2-speed or variable speeds and with a wide variety of mounting arrangements



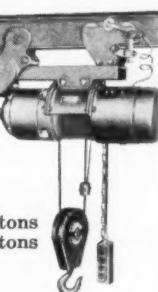
#### 2-SPEED SPEEDWAY FRAME 1

Capacity  $\frac{1}{4}$ -ton to 1 ton. Two-speed, 1800/450 RPM motors permit precise, gentle positioning of work at slow speed... fast lifting and lowering at high speed.



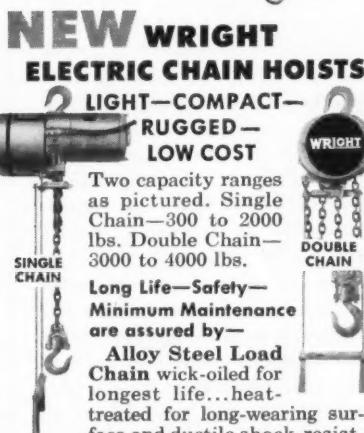
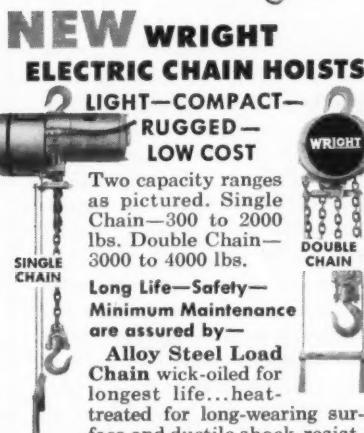
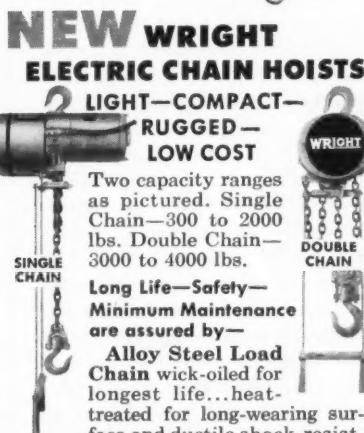
#### SPEEDWAY FRAME 1½

4-part reeved. Capacity to 2 tons... relatively slow lifting speeds.



#### SPEEDWAY FRAME 2 FRAME 3

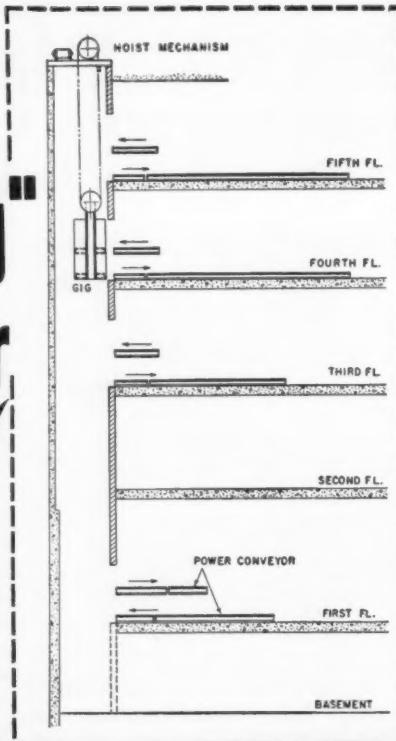
Capacities—  
Frame 2,  $\frac{1}{2}$ -ton to 6 tons  
Frame 3, 4 tons to 10 tons



# "Thinking" elevator



**moves 6000 lb. loads to and from  
all floors— AUTOMATICALLY!**



This Gifford-Wood interfloor conveying system moves three-ton loads over four floors . . . in two directions . . . and keeps precise track of every load and its destination—electronically

One operator, with the aid of the G-W electronic "memory panel," controls movements of nine different conveying elements and sixteen different transfers. The result has been faster, more accurate transfer at General Electric's Specialty Transformer Department, Fort Wayne, Ind.

The system involves five con-

veying cycles; a control panel at each floor; double deck conveyors and gig (one level for loading; one for receiving); and devices to meet all safety requirements.

Gifford-Wood material handling systems are custom engineered for the exact requirements of your plant. Write for details.

## GIFFORD-WOOD CO.

FREE

GIFFORD-WOOD CO., Hudson, N. Y.

Please send me:

- Your folder on G-W interfloor handling systems.
- Your Idea Book on materials handling systems.

Name \_\_\_\_\_ Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

4836

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## IMPROVED STORAGE

*Continued*

the pallet holding the desired die is automatically pulled onto it. Reverse action loads racks.

The transfer places dies on a rotating table, which not only eases inspection but also makes it unnecessary to lift a die from the back of a pallet.

Combining maximum use of air rights with features of positioned inventory and perimeter supply is shown in the welding department. Some 125 jigs and fixtures are stored on a 140-foot, L-shaped, overhead trolley conveyor, indexed by number. Work orders specify the jig or fixture to be used on a particular part. The welder simply operates the conveyor until the proper one appears in the descending loop before him. When he is finished with it, he inspects the part and replaces it in its proper location on the line.

Besides accounting for much of the 50 percent of floor space saved in this department, the system reduced damage and simplified the maintenance of jigs and fixtures. It makes shorter runs of specific weldments economically feasible. This has led to a considerable reduction of work-in-process not only in the welding department but also in succeeding operations.

Conveyored rack storage, too, is used in the welding department for point-of-use storage of components. Parts are fed into racks from the rear, outside the department, and flow toward the work station.

Overhead accumulation of odd-shaped, bulky items has greatly benefited the warehousing department. Hung on four monorail systems are such items as support members for conveyors, stands, and curved sections of wheel and roller conveyor. Parts are stored in clusters on fixtures holding 1 to 12 items. (One of the lines serves for movement as well as accumulation. It travels from the assembly area into storage, and then on to the point of order selection.) Each line dips to within a few feet of the floor for easy loading and unloading. Conveyors are controlled

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with **PALITON** work easy

**HYDRAULIC LIFT TRUCKS**

**Heavy Pallet Loads move faster**

**STANDARD CAPACITY**

**4,600 lbs**

**BRIEFLY—THE BEST IN THE WORLD USED EXCLUSIVELY IN ROLLS ROYCE PLANTS**

**X** 6,000 lb. test Hydraulic Unit

**X** Auto Safety Relief Valve

**X** Instantly replaceable cartridge valves

**X** Lifting height 5 inches

**X** Grease gun lubrication throughout

**X** Roller bearings throughout and extra strong light weight construction makes work easy

**90 day guarantee every truck.**

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**ALL-NEW!**

**50TH ANNIVERSARY**

**"DETROITER" ELECTRIC HOIST**

**STREAMLINED...**  
everything built-in, enclosed, protecting; no HUNG-ON parts; modern in every detail.

**SUSPENSION...**  
various types available, including power travel.

**PUSH BUTTON CONTROL...**  
low voltage, pilot circuit.

**HOOK STOPS...**  
automatic up-stop, automatic down-stop; one of the several safety features included on the Detroiter.

**A BALANCED DESIGN—RUGGED,**  
**SMOOTH, QUIET,**  
**ACCESSIBLE**

Inquire about the "Detroiter"—all new Electric Hoist; get further information, phone or write today. Ask for Bulletin 850

**DETROIT HOIST and MACHINE CO.**  
8264 MORROW STREET • DETROIT 11, MICHIGAN

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DECEMBER, 1957

**JAKES**

**America's Finest**

**Industrial Trucks and Trailers**

**MODEL 1500**

Complete line of industrial trailers. Caster steer, fifth wheel steer, four wheel steer. Capacities: 1,000 to 20,000 lbs. Special designs as required.

**WRITE FOR INFORMATION**

**JAKES FOUNDRY COMPANY**

Established 1891

2800 Charlotte Avenue Nashville 9, Tennessee

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look beyond the price...

**you'll see that you get  
the most for your money in**

## **MATHEWS CONVEYERS**



*A push button order filling system in which an operator at a control console directs the flow of material from 66 storage lines. Photo courtesy of Gallo Sales Co.*

Most plant operating people, when they buy conveying systems, are looking for the equipment that is best for their plant—equipment that is designed to meet their individual requirements. They are looking beyond the price . . . looking to quality—to dependability. Mathews engineers have been designing and building conveying systems for over 50 years, and a great amount of this equipment has been applied in metalworking plants. This is why operating people everywhere have an extra measure of confidence in Mathews equipment—and why you see Mathews Conveyers in metal-producing and fabricating plants everywhere.

### **MATHEWS CONVEYER COMPANY**

GENERAL OFFICES . . . . . ELLWOOD CITY, PENNSYLVANIA  
PACIFIC COAST DIV. . . . . MATHEWS CONVEYER COMPANY WEST COAST,  
SAN CARLOS, CALIFORNIA  
CANADIAN DIVISION . . . MATHEWS CONVEYER COMPANY, LTD., PORT HOPE,  
ONTARIO.



# **MATHEWS**

*Fifty Years of Leadership in Mechanized Handling*

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### **IMPROVED STORAGE**

*Continued*

by switches installed at these points. When he has a fixture loaded, a material handler inches the conveyor until the next empty fixture is available. To unload, he operates the conveyor until the proper item is at the pick-off point. Since each conveyor is reversible, he chooses the direction of travel that involves the least time. Overhead storage has contributed to an over-all gain of 6000 square feet of floor space in the department and increased finished goods inventory capacity some 50 percent.

Throughout the plant, office areas have been elevated above the floor, leaving 120 sq. ft. of working and storage space underneath.

#### **Safety:**

*Safety should never be secondary to handling because a good handling system is a safe one.*

#### **Get Everyone Into The Act:**

*It takes a good industrial engineer to coordinate all efforts in a plan. It takes everyone in an organization to make it work.*

When the eight principles were applied, here's what Rapids-Standard achieved.

- Increase in productive capacity made a plant expansion unnecessary.
- Point-of-use inventories of parts and materials reduced total inventory. This affected purchasing, and, in turn, improved the company's financial position.
- Within departments, improved handling and storing methods reduced set-up times for many operations. This made it practical to schedule smaller runs of sub-assemblies and to reduce storage space of parts for final assembly.
- Work standards were improved.
- Live storage in the shipping department made it possible to stock a larger inventory of finished equipment and accessories.



## Coal-Handling Tractor Shovel HAS BIG BUCKET... WILL TRAVEL

Will travel . . . there's the key to the extra value of an Allis-Chalmers HD-11G tractor shovel with 3½-yd coal bucket. Its combination of capacity and mobility may be utilized in many ways.

**TRAVELS ON THE STOCKPILE** Long crawler tracks give it the stability to work right up on the storage pile . . . enables it to spread coal in horizontal layers. This eliminates the formation of flues — the main cause of spontaneous combustion.

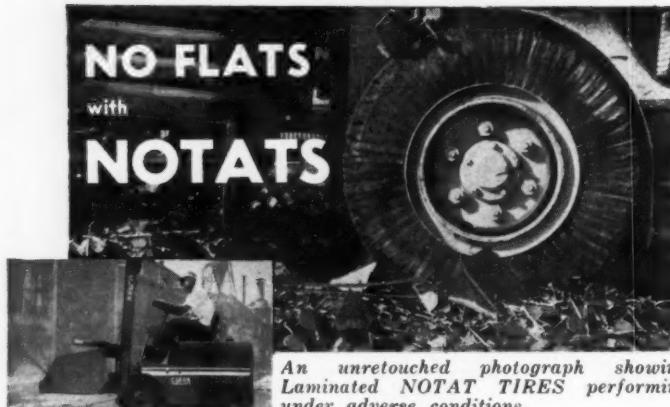
**TRAVELS ABOUT THE YARD** The HD-11G builds stockpiles with equal ease anywhere in the yard. There is no need to limit storage piles to areas served by fixed structures.

**TRAVELS FROM JOB TO JOB** There need be no idle time for an HD-11G for it is also an expert at countless additional jobs. It can remove and load cinders, help on plant road maintenance, clear and load snow . . . handle many other yard maintenance jobs.

Your Allis-Chalmers construction machinery dealer will show you how the HD-11G can bring new efficiency to your coal and other bulk material handling operations — without the need for specialized machines. Ask to see all four tractor shovel models with buckets ranging from 1½ to 7 cu yd. Allis-Chalmers, Construction Machinery Division, Milwaukee 1, Wisconsin.

**ALLIS-CHALMERS** *Engineering in Action*

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An unretouched photograph showing Laminated NOTAT TIRES performing under adverse conditions.

Notat laminated tires completely eliminate "down-time" caused by tire trouble. There's no tube or air chamber to go flat. And, unlike solid tires, Notats will "give" to prevent the jarring of loads . . . will actually ride and steer like pneumatics at in-plant speeds. Notat's laminated construction features hundreds of "pads" molded together (reinforced with steel bands)—yet each pad functions individually for greater traction and faster stopping. For elimination of down-time, easier steering, greater traction and longer life, switch to NOTATS. In sizes from 4.00 x 8 to 8.50 x 24. Write today for price list and further information.

Sold By Materials Handling Equipment Dealers Everywhere.



The original laminated tire—accept no substitutes.

**NOTAT TIRE COMPANY**

1504 E. 34th Street • Chattanooga, Tenn.

## LIVE STORAGE . . .

(Continued from page 64)

sale, Cabinets must be manufactured, given a flat coat and then stored until final color is determined. Many different types and sizes have to be kept orderly, accessible and protected.

One manufacturer gained a definite competitive advantage by putting cabinets (unpackaged) in line storage. The rack fills an entire building, is loaded and unloaded with the aid of belt conveyors, roller conveyors and catwalks. When an order is received, cabinets are removed from the rack, conveyed through a paint spray line and dryer, and are packaged and shipped—all in a fraction of the time required by other methods.

### Essential First-In-First-Out:

At a large yarn mill, an extensive storage rack system automatically provides fool-proof first-in-first-out control of stored yarn—important because dyed lots must be kept together, in order, until final

## CUT COSTS for Packing BAGS

FILL and WEIGH with

### CODDINGTON AUGER-MATIC Bag Packer

Low Cost, portable  
AUGER-MATIC packs  
any material from powder to  
pellets in paper bags . . . shuts off automatically  
when desired weight is reached.

Valve bags fit snugly on AUGER-MATIC spout so  
no dust escapes . . . keeps bags clean . . . eliminates costly tying or bag closing equipment.

-----FILL OUT AND MAIL TODAY-----

E. D. CODDINGTON MFG. CO.  
5080 N. 37th Street, Milwaukee 9, Wisconsin

Please send me facts on Cutting Valve Bag Packing Costs

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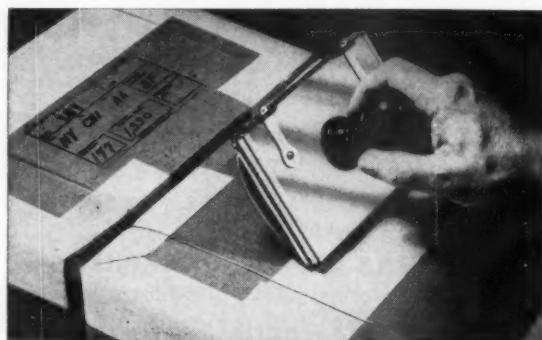
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ADDRESS.....

CITY..... ZONE..... STATE.....

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122



## LOT LABELLING

Eliminate Shipping Labels! Print Direct!

Quick! Accurate! Easy! Print shipping information direct on cartons, boxes, packages. Eliminate double operation of preparing labels and then pasting them to the containers. Get 1,000 or more clear, sharp impressions from one stencil without re-inking. New FORM-CUT® Stencil has facsimile of your label or shipping form die-pressed into the stencil. Then type or write in address or identification data . . . attach to duplicator . . . and print, like using a rubber stamp. Write for Literature and FREE SAMPLE FORM-CUT STENCIL AND PRINT.

THE ORIGINAL HAND STAMP  
STENCIL DUPLICATOR



OVER 35 YEARS

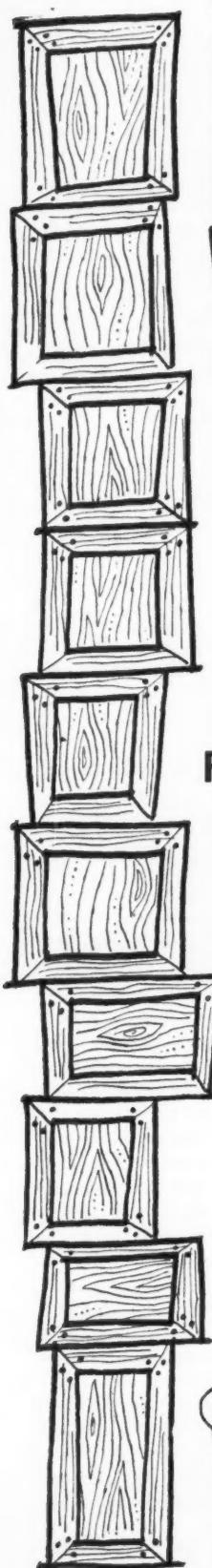
**MULTISTAMP**  
STENCIL DUPLICATOR

MANUFACTURED ONLY BY THE MULTISTAMP CO., INC., ALEXANDRIA, VIRGINIA

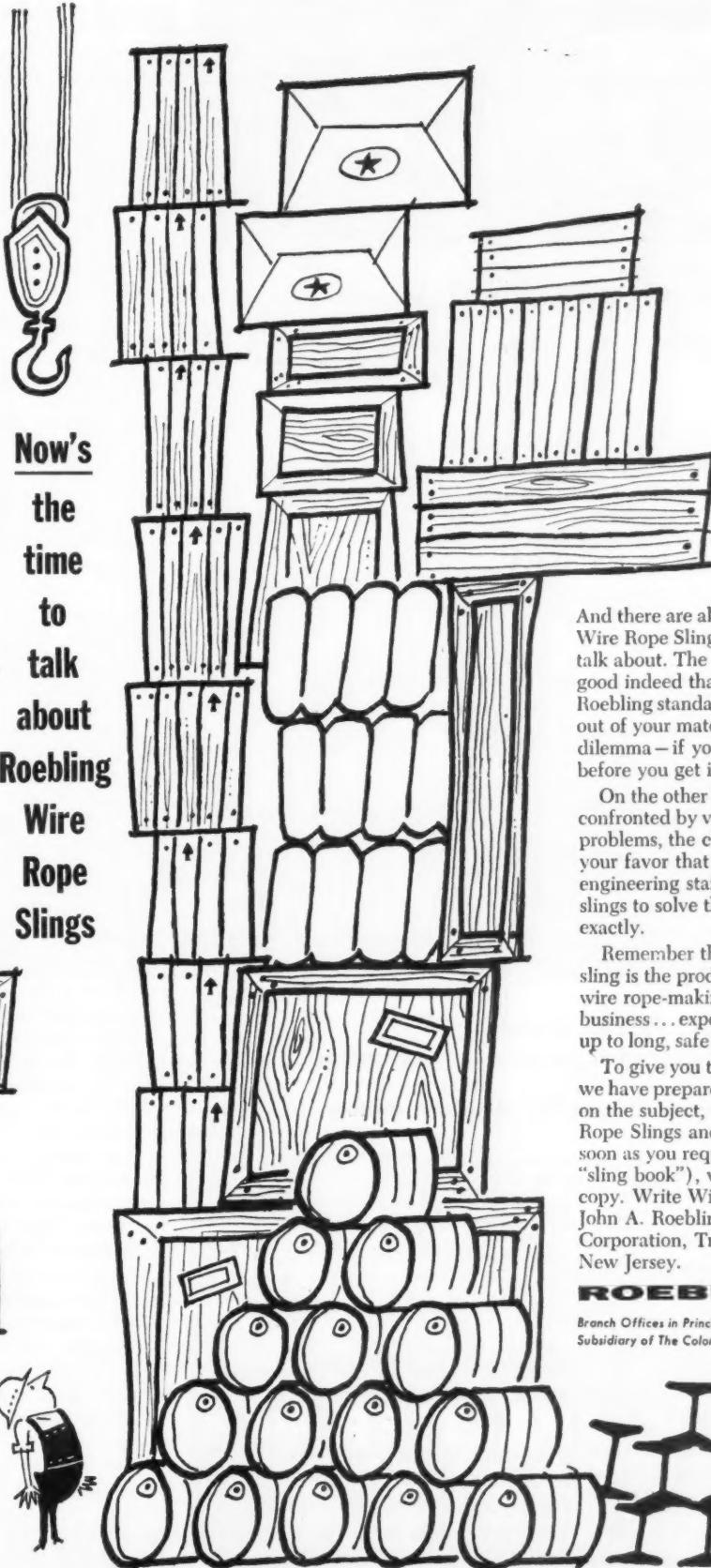


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FLOW



**Now's  
the  
time  
to  
talk  
about  
Roebling  
Wire  
Rope  
Slings**



And there are all kinds of Roebling Wire Rope Slings and Assemblies to talk about. The chances are very good indeed that there is a Roebling standard sling to lift you out of your materials handling dilemma—if you're in one, or before you get into one.

On the other hand, if you're confronted by very special lifting problems, the chances are again in your favor that Roebling's engineering staff can design unique slings to solve those problems exactly.

Remember that *any* Roebling sling is the product of the longest wire rope-making experience in the business...experience that adds up to long, safe sling service.

To give you the complete picture, we have prepared a 56-page book on the subject, "Roebling Wire Rope Slings and Assemblies." As soon as you request it (just ask for "sling book"), we'll send you a copy. Write Wire Rope Division, John A. Roebling's Sons Corporation, Trenton 2, New Jersey.

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Branch Offices in Principal Cities  
Subsidiary of The Colorado Fuel and Iron Corporation

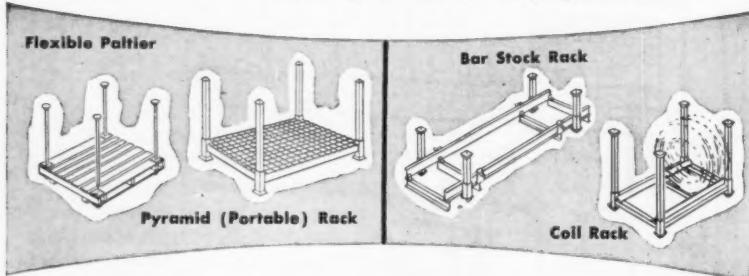
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# PALTIER SYSTEMS

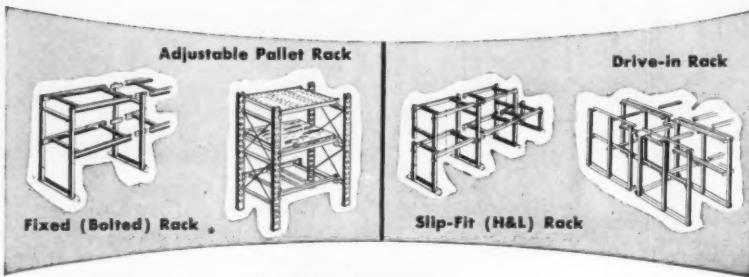
## are Best...

### INCREASE YOUR PROFITS

and provide maximum  
safety for your employees.



PALTIER engineering has developed storage systems for practically every storage requirement, proving that PALTIER'S experience has no peer.



There is a PALTIER SYSTEM  
designed especially for your plant.

#### Stacking Hardware for Standard Pallets.



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### LIVE STORAGE

*Continued*

shipping. A traveling lift loads and removes cartons on opposite sides of the rack. These traverse the face of the rack on rails, permitting quick mechanical access to each storage lane. The system made it possible to build the rack almost to the ceiling.

**Reducing Cost Of Complex Orders:** By switching to live storage, a leading greeting card manufacturer, improved service and reduced the cost of selecting complex orders. Typical orders require that many different greeting cards be picked out of their boxes—usually just a few of each. Because of the many selections made for each order, compactness of rack design pays off handsomely in reduced walking. Thousands of different cards are stored in just a few hundred feet of rack face. Separation of loading and picking operations avoids traffic problems.

**Flexible Racks Suit Varied Sizes:** What do you do when container sizes keep changing? There are two live storage solutions. Pallets, of course, permit the use of a fixed lane width, while the loads themselves can change in size. But sometimes this is wasteful of cube and calls for extra handling. If pallets won't do, a flexible rack can be used—width of lanes can be quickly and easily changed.

One company which formerly used dead storage shelves has just such a rack. Its products, rubber mats and other specialties in various sizes and colors are subject to seasonal and fashion trends. At any time, storage needs can change radically. Here, a live storage rack consists of approximately 100 lanes, all adjustable in width. Differences in weight of various products are accommodated by using pallets in some cases, rails with more wheels per foot in others, or simply more rails. Average-weight loads are carried on two standard rails. Flat packages are stacked 3-deep for space savings.

*(Continued on page 126)*

# New PAYLOADER® attachment



## CUTS handling COSTS in HALF

**The Problem:** Sonken-Galamba Corp., Kansas City, Kan., produces specification ingots using scrap aluminum that arrives via rail and truck. Unloading, stockpiling and feeding this tangled scrap to furnaces was slow, laborious and expensive. The company took their problem to the local Hough Distributor who recommended, demonstrated and sold a model HA "PAYLOADER" with hydraulic grab attachment.

**The results?** Let Mr. Robert Ryan, Sonken-Galamba executive, tell it: "Our unloading efficiency is now substantially greater. With the Hough machine, it takes 10 to 14 manhours to unload a trailer of aluminum clippings against the former 36 hours. The efficiency of loading the material to the furnaces is also increased. We are pleased with the increased output through the use of this unit."

This model HA "PAYLOADER" tractor-shovel has a load-carrying capacity of 1,500 lbs. with the grab, and 2,000 lbs. with regular bucket. Other useful model HA attachments are fork lift, tine bucket, pick-up floor sweeper and castered dump hoppers. Operating features include exclusive one-lever bucket control, two speeds each direction, torque converter and rollback, break-out bucket action.

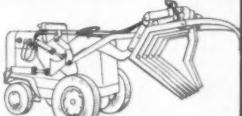
Your Hough Distributor wants to demonstrate what a model HA or larger "PAYLOADER" can do for you. Ask him about Hough Purchase and Lease Plans too.



**PAYLOADER®**  
MANUFACTURED BY  
THE FRANK G. HOUGH CO. LIBERTYVILLE, ILL.  
SUBSIDIARY—INTERNATIONAL HARVESTER COMPANY



### A one-man handling system...



#### THE FRANK G. HOUGH CO.

731 Sunnyside Ave., Libertyville, Ill.

Send "PAYLOADER" and scrap grab information:

- Model HA and HAH with grab (to 2,250 lbs. cap.)
- Larger "PAYLOADER" models (to 9,000 lbs. bucket carrying cap.)

Name.....

Title.....

Company.....

Street.....

City..... State.....  
12-A-1

You can't buy  
a better  
10 ton  
storage rack

As low as

\$38.00  
per section\*

\*Price at maximum  
quantity discount



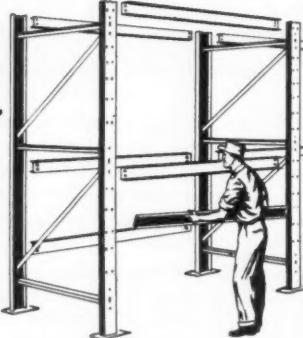
## Series "500" Boltless Storage Racks

- Easier to erect
- Easy to change
- Absolutely safe . . . rigid!

Only 3 basic parts—a sturdy  $\frac{3}{16}$ " steel channel upright, heavy duty channel shelf arms, and brace bars—the new Series "500" Storage Racks provide swayless, adjustable storage space for pallets of any size. No bolts or clips used—assembly or change can be made in a matter of minutes with nothing more than a hammer.

### ADDITIONAL FEATURES INCLUDE:

- 10 ton capacity per section
- Each shelf adjustable on 9" centers
- No back bracing permits entry from front or rear
- Suitable for pallet, skid or deck-type storage
- Quantity discounts
- $\frac{3}{16}$ " steel channel uprights



**RACK** Engineering Company

131 SIXTH ST. • CONNELLSVILLE, PA.

PLANTS IN: Connellsville, Pa. • Gardena, Calif. • Farnham, Canada • Slough, England  
STOCK DISTRIBUTORS IN PRINCIPAL CITIES

Circle No. 109 on Reader Service Card for more information

## LIVE STORAGE

Continued

There cannot be an automatic warehouse that is not basically a live storage arrangement. Every item must be able to move in and out by remote control. Assuming that gravity moves items that are in live storage, the conversion to total automation is a matter of providing a way to put items in and take them out selectively.

Getting them out, naturally, is easier than putting them in. Once inside a live storage rack, items are already separated. Each lane can be equipped with remote controlled stops that permit selected boxes to flow out of the rack. Stops can be arranged either to empty entire lanes or to meter out packages individually. Controls can be a simple push-button panel, tape, or other type of automatic control. Once an item is out of the rack it can be removed on wheel, roller or belt conveyor—usually arranged in decks.

### Use of Push Buttons

Push-button order picking actually implies a complete company procedure—involving, for instance, how the salesman writes down the order, and how orders are handled when they reach the company office. In unloading, it is necessary to keep in mind or install in a console the following: the order of packages in the rack; the corresponding order of the push-button controls; the corresponding order of the items listed on the company's order form that is used as a basis in picking. This gets quite complex if only certain packages will fit in certain lanes, and if the packages change in size and shape from time to time. Push-button controls must be designed for easy rewiring so that paper order and panel order can be independent of physical rack order. Packages usually are picked out of the rack starting from the downstream end and working toward the upstream end to prevent interference of one with another.

The basic difference between loading and unloading is that in loading the correct lane must be found, and a mechanical device

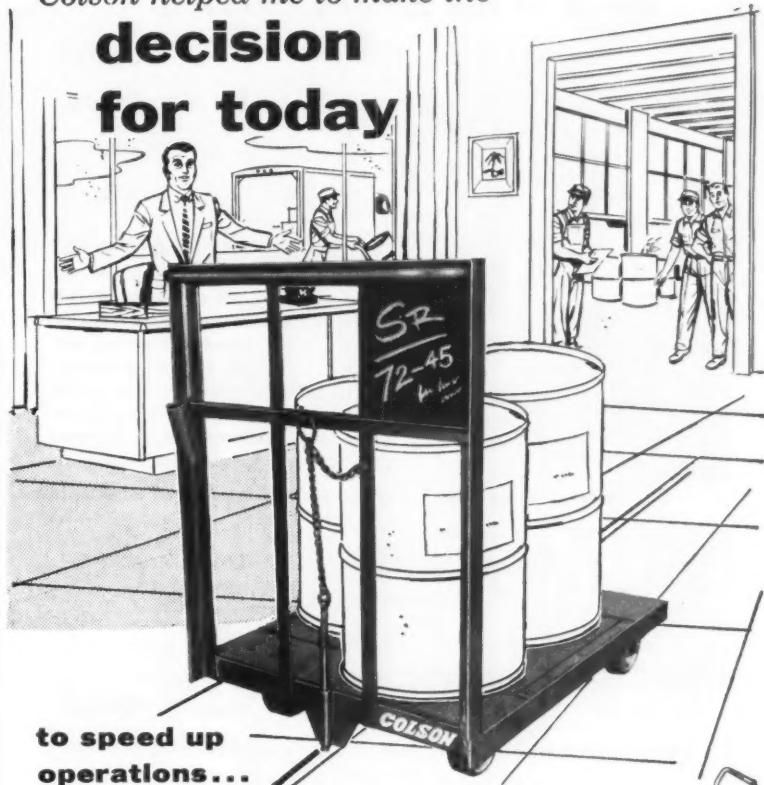
must put the package into it. In loading automatically, a pattern should be established. By pattern, we mean this: Must the rack be loaded erratically, like a postman sorts letters into pigeon holes? Or can it be systematic (loading one lane, then the next, etc.)? Also, is it possible to load a reasonable quantity of cartons in a lane? Answers to these questions tie in closely with production scheduling, the company's paper work, control systems, and other specific details of company operation.

In automatic loading, a signal system automatically routes packages to proper lanes. One type carries the signal with the package. As a signal is recognized at the point of entry, a mechanical device is actuated to introduce the carton into its proper lane. Typical signals are: (1) Arrangement of pins on tote boxes; (2) colors on cartons; (3) metallic foil spot on carton; (4) weight of package; or (5) size of package. Other basic systems involve remote signaling based on some factor other than the physical condition of the package. These usually boil down to timing systems, actuated when the package passes a control point. The timer then measures precisely when the package is expected to reach its destination. Still another system involves sequence, with the correct actions taken on the first, second, third, etc., package. One involves the use of a miniature counterpart of the main system, on which counterpart the operator moves a control device, and the package maintains a corresponding position in the actual system.

It is theoretically possible to set up a rack which automatically transmits messages and receives replenishment from another reserve storage area. The usual procedure, though, is to have demand signals transmitted to a central control spot where an operator routes replenishment packages to the rack. In some circumstances, it is desirable to turn the picture completely around—have the stream of packages "find" an empty lane and thus store themselves automatically.

Fundamental questions to answer in considering automatic loading, then, is whether to tell

Colson helped me to make the  
**decision  
for today**



**to speed up  
operations...**

**The answer . . . right in front of my nose!**

To remain competitive, management must always be alert to new operating economies. One way is with Colson materials handling equipment.

Take Colson "In-Line" trucks, for example . . . they roll and maneuver swiftly . . . save time and manpower . . . cut costs tremendously . . . withstand years of rugged service.

For both sub-floor and overhead systems in thirty standard sizes plus special designs for your specific needs. All with sealed bearing casters.

Available, too, as time savers are Colson's wood or steel platform trucks, and the famous Colson Lift Jack and Skid systems for fast, economical handling in smaller operations.

Find out how Colson can help you . . . just use the coupon, or call your Colson representative—he's listed in the yellow pages of your phone book.

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General Offices, Elyria, Ohio  
Factories in Elyria, Boston, Toronto

Our business is  Send materials handling information relative to our company.   
Have a representative call

Name  Position

Firm

Address  City  State

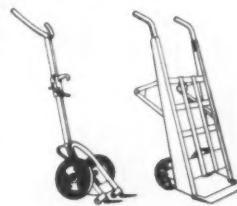
Dept. F-12



Platform Trucks



Lift Jack with Skid



Drum and Hand Trucks

Circle No. 33 on Reader Service Card for more information

Circle No. 80 on Reader Service Card for more information

## Heart of the Hydroelectric



### THE DYNA-DUAL POWER UNIT

This sturdy Dyna-Dual Power Unit out performs all others for ease of operation—dependability—lowest maintenance cost and economy of power.

HydroElectrics will keep rolling and moving your materials at lower costs than any truck in its class.

Want proof? Complete facts and data on request.

Note: The Dyna-Dual Power Unit is interchangeable on all models.

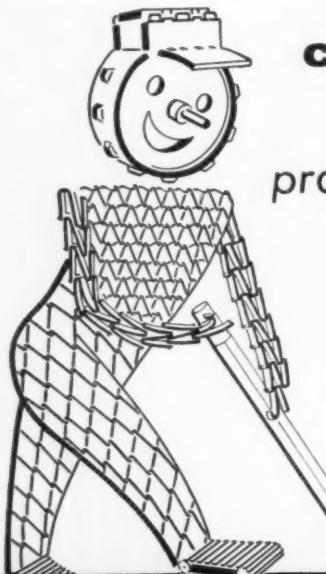


**LIFT TRUCKS**  
INCORPORATED

2423-31 SPRING GROVE AVE.  
CINCINNATI 14, OHIO



There is a model for every purpose to handle any kind of material



### CY BELT says

**"I can increase your production and profit!"**

In some plants, production is held up because of delays in moving material from one processing stage to another. If this happens, even occasionally, in your plant, perhaps an analysis of your present method of handling materials could show you where and how to eliminate time-wasting procedures. A Cyclone Conveyor Belt representative will be glad to help you make such an analysis, without obligation to you. Because Cyclone Metal Conveyor Belts are made in many sizes, designs and materials, his recommendation will be tailored to the needs of your plant and your product. Why not fill in the coupon below?

#### CYCLONE FENCE DEPARTMENT

American Steel & Wire Division  
United States Steel Corporation, Waukegan, Illinois  
United States Steel Export Company, New York

#### MAIL THIS COUPON

Cyclone Fence  
Dept. A-127, Waukegan, Illinois  
Please have your trained representative call  
on us to discuss our production problems.

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Company.....

Address.....

City..... State.....

**USS CYCLONE**  
METAL  
CONVEYOR BELTS  
SPIRAL WOVEN  
FLAT WIRE - FLEX-GRID

UNITED STATES STEEL

Circle No. 38 on Reader Service Card for more information

## LIVE STORAGE

Continued

the package to "go store yourself" or "you belong in lane X". In unloading they are whether you want to call for "everybody out" of a particular lane, or for individual packages in a definite order.

It is entirely practical to plan for manual loading and unloading a live storage rack which can later be converted to automatic loading and unloading. Also, various stages of automation can be planned to provide for semi-automatic mechanical assists to load or unload a rack—before conversion to a totally automatic system. In planning such a rack, it is, of course, necessary to lay out the eventual automatic scheme so that proper physical clearances are allowed in the initial rack design.

### Small Parts In High Density Storage:

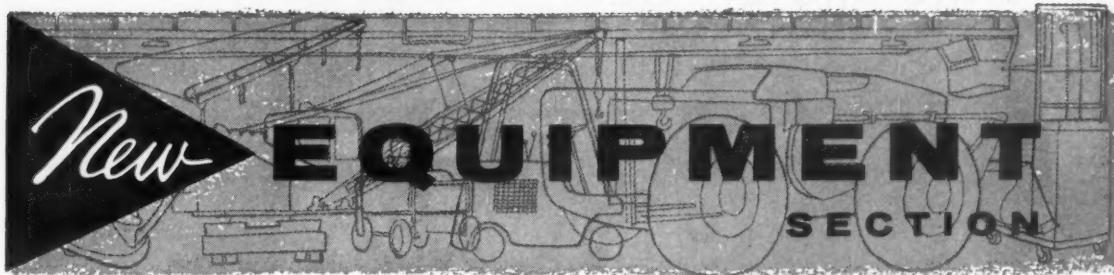
Storage: Storing millions of metal fasteners with the accompanying weight problem, called for a distinctly different rack which would carry high weight. Conveyor lanes were made of rollers instead of wheels. Variety was greater (1800 lanes), and lanes were shorter because so many small fasteners could be stored in a small place. The rack was made higher than a man's reach to provide more selections in a given floor space.

Fasteners are packaged in small boxes, which are in turn put in larger boxes that weigh about 300 pounds loaded. When full, these are loaded into racks by fork truck having a live roller conveyor bed. Unloading is easier because most orders are for only a few of the smaller containers. Access to upper decks is gained with a "high rider" elevator-type lift truck.

Here, again, separate loading and unloading avoids what could be a difficult truck-traffic problem.

### Credits:

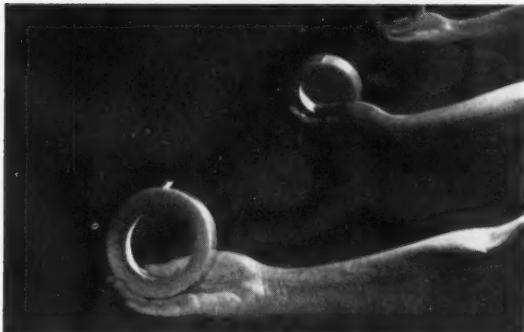
In addition to Alvey-Ferguson Co., FLOW thanks the following for illustrations: The Lok-Rak Corporation of America; Mathews Conveyor Company; M-H Standard Co.; and North American Equipment Corporation.



### Lift Truck Goes Underground

A lift truck that can lower a load below floor level as well as raise it above has been developed by the Yale Material Handling Division, Yale & Towne Manufacturing Company. According to the manufacturer, this truck can handle such assignments as working in pits, lowering palletized material into dipping or cleaning tanks, or moving loads in a plant with different floor levels. Loads can be lowered to 72 inches below floor level and raised to 41 inches above, with a 6,000 pound capacity model. In below-ground operation, this truck uses primary lifting channels that support secondary lifting channels (each channel assembly has its own lift cylinder and controls). Fork carriage is mounted at the bottom of the mast. Overall height of the mast assembly is 83 inches.

Circle 248 on Reader Service Card for more information



### Storing Long Parts

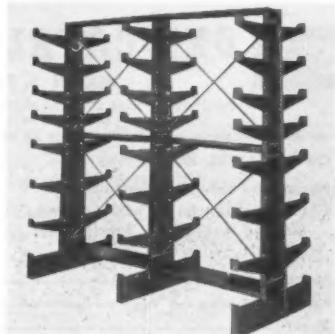
Storage units developed for bars, pipe, rods, posts, or other long parts are manufactured by Lyon Metal Products. Storing parts that vary in quantity is accomplished by horizontal arms that adjust on 1½ inch centers. (Spacing can be as close as 7½ inches.) This feature, says the manufacturer, permits loading or removing of long pieces even in narrow aisles. The arm projections, with upright stops on the ends, allow loading by hand or crane. Extra arms may be added to increase the carrying capacity of the racks. Units are available in double face models for center floor use, or single face for use against a wall. Sections are 36 inches wide and 79¼ high.

Circle No. 250 on Reader Service Card for more information

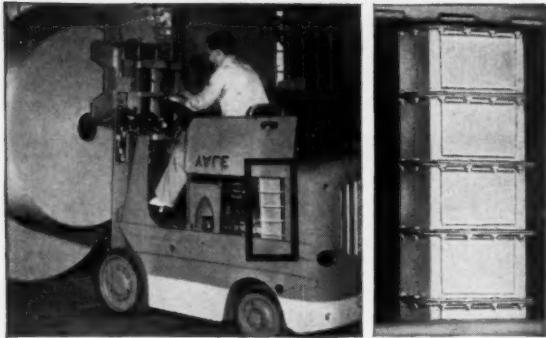
### All-Purpose Tape Is Chemical-Proof

An all-purpose transparent tape introduced by Minnesota Mining and Manufacturing Co. is resistant to oils, moisture and many acids, alkalis and solvents. Scotch brand "Paklon" pressure sensitive film tape No. 681 is non-inflammable, and designed for light and medium industrial packaging uses. It is said to have excellent holding and sealing qualities. The tape is easily removed from the roll. Its surface is printable.

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# Gasoline and LP Gas EXHAUST FUMES ARE POISON



Stop them quickly, effectively, at low cost  
with OCM® CATALYTIC EXHAUST PURIFIERS

**STOP DEADLY CARBON MONOXIDE.** OCM Catalytic Exhausts eliminate 95% or more of CO—90% of harmful, irritating hydrocarbons and other engine exhaust fumes and odors—from any type of equipment burning gasoline or LP gas.

**INCREASE EMPLOYEE EFFICIENCY AND MORALE.** Fume-caused headaches, grogginess, eye irritation, and nausea cost you money—in production slow-downs, lowered work level.

**MAKE PRESENT EQUIPMENT MORE PRODUCTIVE.** With OCM Exhaust Purifiers, you can run lift trucks, bulk-handling trucks, floor scrubbers, construction machinery, and other equipment continuously, safely, efficiently, even in closely confined areas.

**EASY TO INSTALL.** OCM Exhaust Purifiers can be easily installed on your present equipment without changing clearances. They take the place of the standard muffler. Need little or no maintenance.

**LONG LIFE—LOW-COST REPLACEMENT.** Up to 2000-2500 hours in normal use—in some cases 4000 and more. Only the catalytic unit needs replacing—simple, economical to do.

**STOP DIESEL EXHAUST FUMES.** OCM Dieseler controls harmful, irritating exhaust from any 4-cycle diesel when running at or over 60% load.

OCM Catalytic Exhaust Purifiers are the best way—the only way—to good fume elimination, even when using LP gas. Write now for complete information and name of your local representative.



**OXY-CATALYST, INC.**

WAYNE 1, PA., U.S.A.

Catalysts for fume and odor elimination, air pollution control, and waste heat recovery

OX-Y-CATALYST, INC., Wayne 1, Pa.

Please send complete information on:

- OCM Exhaust for gasoline and LP engines    OCM Dieseler for 4-cycle diesel engines    Send name of local representative

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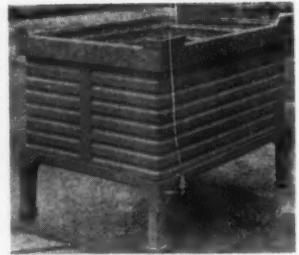
Zone \_\_\_\_\_

State \_\_\_\_\_

Circle 104 on Reader Service Card for more information  
130

## Hot Handling Box

A high strength steel "hot" box, designed to take the heavy abuse of handling hot work in mill and factory, has been developed by the Pressed Steel Division of Republic Steel. The unit is made of "Republic 50", a low alloy high tensile steel, and is intended for use in handling, stacking, and storing hot work such as castings, forgings, or special parts fresh from annealing, etc. The box is 38" wide, 53" long, and 26" deep. Sides and bottoms are corrugated; legs are squared on the bottom. Top is equipped with special welded brackets into which the legs fit when one box is stacked on another.



Circle 256 on Reader Service Card

## Precision Scales For Industry

Detecto Scales, Inc. has introduced a complete line of scales for industrial uses. These include scales for packaging, counting, inventory and shipping, as well as various custom made equipment such as the Detecto Lift Truck Scale and the Detecto Combination Track and Dormant Platform Scale.

Circle 257 on Reader Service Card

## For the **BEST** LIVE STORAGE RACK



Check these features  
of VERSARACK

- 1—Wide spacing between uprights for maximum flexibility—to 10'.
- 2—Bright zinc finish—attractive, no maintenance.
- 3—Easy pick front.
- 4—Rail spacing, shelf height and pitch easily adjusted.
- 5—No intermediate supports to complicate adjustability. Full 10' span.
- 6—In & Out conveyor systems.
- 7—Built in row divider—no separate guides or uprights.
- 8—Heavy duty rail suitable for 10' unsupported span for most jobs.
- 9—Bright zinc coated—wheels, rails, pins. Perfect for humid locations.
- 10—Top quality wheel, 2" dia. and 5/8" tread for least package indentation.
- 11—Heavy duty 5/16 dia. axles.



**M-H STANDARD CORPORATION**

515 Communipaw Ave., Jersey City 4, N. J.

Circle 207 on Reader Service Card for more information  
FLOW



... and here's why we switched to  
**MONARCH SOLIDS**



**TO CUT REPLACEMENT COSTS**, plant operating executives must analyze each maintenance expense ... and then find a practical means of reducing it! This is especially true when basic materials handling items ... such as press-on tires ... require frequent replacement.

Today, in companies of all types, the men responsible for lift truck operations are effecting important savings by specifying MONARCH industrial solid tires. These tough, dependable, high-performance tires consistently give more ton-miles of service for a competitive initial cost.

MONARCH solids wear better and last longer because they are made by industrial tire specialists from Special Compound T-48C, the toughest natural rubber stock developed to date.

See for yourself how quickly tire replacement costs can be reduced ... switch to **MONARCH industrial solids**.



THE  
**MONARCH**  
 RUBBER COMPANY

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- 7-255 General Motors Bldg., Detroit, Mich.
- 2353 N. California Ave., Chicago, Ill.
- 1035 Bartlett Street, Hayward, Calif.



Ask your nearest **MONARCH** dealer, or write direct, for new 16-page **CATALOG MR-457**. It's full of facts, specifications and suggestions to help you save more on solid tires.

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DECEMBER, 1957

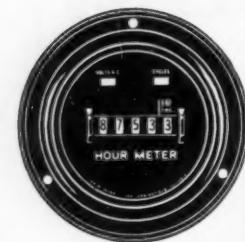
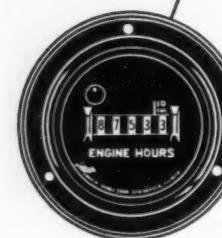
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**For better performance and longer service, get protective maintenance done *On time!***



**Hobbs** ENGINE HOUR METERS FOR DIRECT CURRENT

Beat down-time through timely maintenance . . . know WHEN lubrication, oil change, overhaul, etc. are due. Engineers recommend maintenance in terms of operating time instead of distance . . . the Hobbs Engine Hour Meter provides that information. Not a revolution counter, but a true electric timing instrument recording HOURS and MINUTES. Ruggedly built . . . simple to install . . . easy to read. For gasoline or diesel engines . . . electrically powered mobile equipment. Recommended and approved by leading manufacturers.



**Hobbs**

HOUR METERS for alternating current

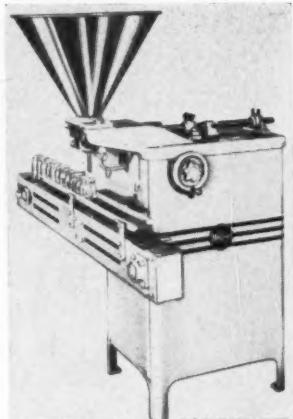
Fight down-time on AC powered equipment, too! Maintenance record systems are of value only when they are based on accurate operating time. The Hobbs AC Hour Meter furnishes the time data essential for a genuinely effective maintenance program . . . and the time information vital for cost and production records. Compact and easy to install . . . ruggedly built. Sealed against dust and moisture. Tells at a glance accumulated time of operation to 10,000 hours, showing 1/10th hours (100,000 hour models also available). See your factory branch, representative, distributor, or WRITE:



## NEW EQUIPMENT SECTION

### Short Run Filling

Hope Machine Company has engineered a single-piston filling machine for short or medium production runs. The unit (Type 15 MS 1) features a cross-conveyor synchronized with the filling cycle. Containers moving along the conveyor are stopped under a filling nozzle; the quantity deposited is regulated by a micrometer type adjustment so that the machine can be set to fill quantities from 1 ounce to  $\frac{1}{2}$  gallon at a stroke.



Circle 259 on Reader Service Card

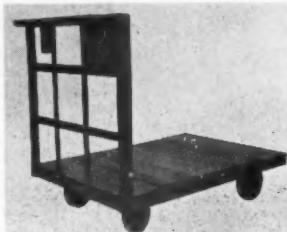
### Exhaust Purifier Kills Fumes

Oxy-Catalyst, Inc., produces the OCM Catalytic Exhaust Purifier for LP gas and unleaded gasoline; the OCM Dieseler, designed to operate on 4-cycle Diesel engines; and the Oxy-Muffler, for operation with leaded gasoline. These units operate on the principle of catalytic exhaust purification—combining unburned and partially burned particles in the exhaust gas stream with oxygen by means of catalysis. The catalyst reacts continuously with exhaust gases, oxidizing them by surface combustion. Heat energy supplied by the engine exhaust gases starts this reaction, which continues as long as there is sufficient heat energy to maintain activating temperature. The organic materials in the exhaust stream which cause fumes are changed to carbon dioxide and water vapor by the reaction.

Circle 260 on Reader Service Card

### Economy Model Hand Truck

The Model T-7 Tow-Kart was designed by the M-H Equipment Company to provide an economical model of 4-wheel hand truck, according to information from the company. Features of the T-7 include: heavy-duty interlocking steel frame, formed wheel mounting channel fore and aft, swivel casters with demountable rubber tires. Wheels have Hyatt-type roller bearings equipped with grease seals and hardened thrust caps.



Circle 261 on Reader Service Card

JOHN W. **Hobbs** CORPORATION **SW**  
A DIVISION OF **SWARTZ**  
2061 YALE BLVD. SPRINGFIELD, ILLINOIS

Circle 68 on Reader Service Card for more information  
132

FLOW

## NEW EQUIPMENT SECTION

### Delivers Two Tape Lengths



An electrically-operated tape dispenser delivers two predetermined lengths of gummed Kraft tape. Derby Sealers, Inc.'s Meto-Electric Dispenser accommodates 35 to 90 pound Kraft tape, gummed-in or gummed-out, in widths from 1 to 3 inches and lengths to 48 inches. Two different lengths can be set by means of locking thumb screws. They are delivered immediately by operating levers left and right. A moistening system with built-in heater is included.

Circle 262 on Reader Service Card

### Feeding, Weighing and Delivery of Ingredients to Mixers

Automatic feeding, weighing and delivery of ingredients to any of a series of mixers—controlled from a fully automatic "memory panel" that does not need an operator—has been announced by Richardson Scale Company. According to the manufacturer, the system

is designed to integrate automatic weighing operations to a series of mixers, completely electronically. A small control panel is installed for each mixer in the system, and mixer operators dial requests through these panels to the main "memory panel". The system is designed for manual as well as automatic operation. Manual operation requires an operator at the main control panels, to sequence the material by push button controls through feeding, weighing and delivery operations.

Circle 263 on Reader Service Card

### Expendable Pack Ships Liquids



The Titan Flow-Pack is designed by its manufacturer, Titan Pallet Co., for shipment and storage of liquid or granular products. It consists of a corrugated outer container with a leak-proof liner. Capacities range from 5 to 55 gallons—up to 500 pounds. The unit is available with special closures, spout fittings and liners to suit every type of product. It comes knocked down, yet sets up in less than one minute. According to the manufacturer, it stores in 1/7 the space of conventional barrels or drums.

Circle 264 on Reader Service Card

## WIRE TAINER

the sensible, convenient way to handle Stock STACKING FOLDING



OPEN BASE 1 & 2 TON CAPACITY

Write for circular and details

**SPRINGPORT STEEL PRODUCTS CO.**  
SPRINGPORT, MICHIGAN

Circle 122 on Reader Service Card for more information  
DECEMBER, 1957



An all-purpose portable belt conveyor, work table and straight-line production system, with and without side leaves. Available up to 100 ft. long in 10 ft. easily assembled sections.

### PORTABLE OR STATIONARY

The perfect mechanized table for assembly, inspection and packaging operations. Available in steel or stainless steel with fixed or variable speed.



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Circle 45 on Reader Service Card for more information

## STOP HOIST AND CRANE OVERLOADING AUTOMATICALLY with a DILLON DYN-A-SWITCH

Here's a silent watchman that automatically prevents overloading of hoists and cranes. Easily attached, the low-cost Dillon Dyna-Switch cuts off all power to the hoist motor when overload occurs. Operator must then press reverse switch returning load to floor. Surplus weight must be removed before pickup can be completed. Will also ring bells or operate warning lights. Compact and light weight, the Dillon Dyna-Switch is dead accurate...a positive protection to personnel and equipment.

14568Q Keswick St., Van Nuys 8, California  
(Suburb of Los Angeles)



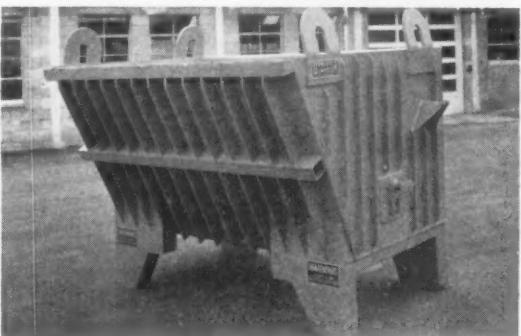
WRITE TODAY FOR LOW PRICE SCHEDULE AND ILLUSTRATED BROCHURE

W. C.  
*Dillon*  
& COMPANY, INC.

## NEW EQUIPMENT SECTION

### Special Container Is Completely Mobile

A special tilt-type container has been manufactured by Dempster Brothers Inc. One application for the container is in handling hot mill scale from soaking

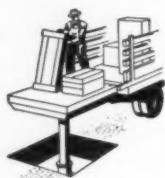


pit operations. Vertical fins have been provided to dissipate heat from the contents and permit handling of the container while the contents is still at a very high degree. In addition to handling by the Dempster-Dumpster Hoist Model LFW 503, it can be adapted with legs for handling with a platform lift truck or with crane eyelets for handling by over-head crane. The container is constructed of 1/2" thick steel plate throughout with heavy duty reinforcing.

Circle 265 on Reader Service Card

## Lift it the low-cost way

WITH DEPENDABLE HYDRAULIC POWER

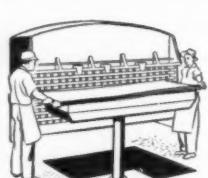


Load trucks from floor level  
... no dock needed



Move traffic from one floor level to another

Rotary Leveler Lifts, using dependable, economical oil-hydraulic power, have countless applications in modern industry. Capacities to 100,000 lbs. Standard models and special lifts engineered to your specifications. Write for catalog.



Feed machines, perform other industrial lifting jobs



**Levelator**® Lifts

ROTARY LIFT COMPANY

Division of the Dover Corporation

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134

## AN ECONOMY-PRICED TABLE-TOP CONVEYOR

for sorting, assembling, packaging, inspecting

SERIES T44



## VERSA-VEYOR

A smooth, dependable, quietly operating table-top conveyor with low initial and maintenance costs. Extensions can be added for over-all length of 81 feet. Available with or without side leaves... adjustable height. Rigid, enameled steel frame with durable 3-ply belt in widths from 6 to 24 inches. Choice of fixed belt speed within 3 to 100 F.P.M. range or variable speeds with 3-to-1 ratio. Moves packages and pieces at lowest cost.

WRITE FOR COMPLETE INFORMATION ON  CONVEYORS

## THE BELT CORPORATION

5776 Stahl Road,

Orient, Ohio

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FLOW

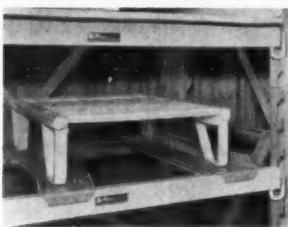
## Hoisting Collapsible Containers



A handling boom for loading bulk material collapsible containers has been introduced by Clark Equipment Company's Industrial Truck Division. The attachment fits the manufacturer's Clarklift line of trucks of 20,000 to 35,000 pound capacities. The unit is designed to lift and carry any collapsible container, up to largest standard size (370 cu. ft.).

Circle 266 on Reader Service Card

## Adjustable Skid Storage



Any conventional pallet storage shelf can be converted into a temporary or permanent skid storage rack by the use of adjustable skid runners. Manufactured by Hartman Metal Fabricators, the runners are adjustable sideways; they cannot fall out or move backward or forward because flanges fit over shelf stringers.

Circle 267 on Reader Service Card

**Did you ever try to handle a HEAVY roll of paper, drum or barrel?**



You can do it easily with the **IRONBOUND**

**ROL  
TRUK**

**Did you ever try to handle a HEAVY machine or crate?**

You can do it easily with

the **IRONBOUND**  
**PRY BAR**

**IRONBOUND**

30 Hoffman Place • Hillside, N. J.



Skid



Dolly

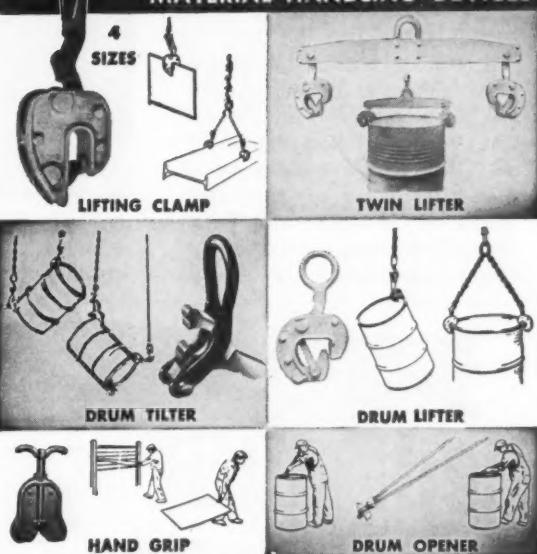


FloTruk

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DECEMBER, 1957

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## YOUR BEST MOVE IS TO MOVE WITH **MERRILL** MATERIAL HANDLING DEVICES



For Interesting Information write

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## ELECTROLIFT solves our hoisting problems

Wide selection of dependable worm drive hoists with capacities from  $\frac{1}{4}$  to 10 tons . . . compact . . . close headroom . . . precise control. Consult your local Electrolift representative or write for complete catalog.

WORM DRIVE  
**ELECTROLIFT**  
HOISTS

4656

204 SARGEANT AVE., CLIFTON, N. J.  
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135

## NEW EQUIPMENT SECTION

### Truck Is Key to Waste Collection System

A complete system of industrial waste collection centers around the Dempster-Dumpmaster Model CA, a product of Dempster Brothers. This vehicle consists of a truck-mounted top bay compactor and a set of mechanical lifting arms. These arms engage pick-up channels on the sides of special

waste-storage containers and dump the contents into the compactor body, where it is hydraulically compressed to 1/3 its former volume.

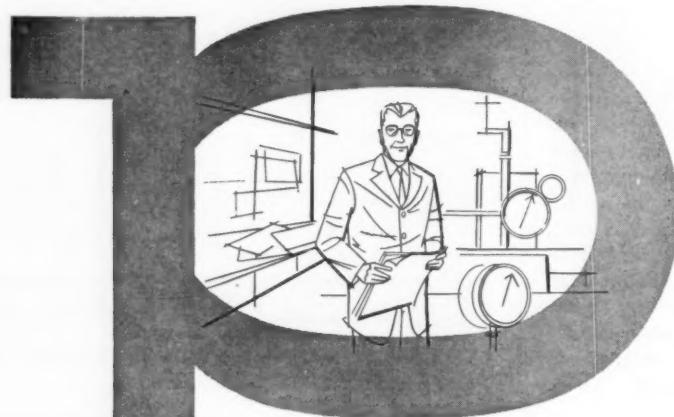
The pick-up, dumping and returning cycle is performed in less than 60 seconds. The truck

can load more than 60 cubic yards of waste before traveling to the disposal area.

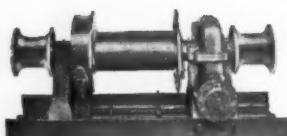
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### Triple Lift Action

The Triplex Mast was designed by the Yale & Towne Manufacturing Company for improving



PLENTY OF  
PULL  
POWER  
PLUS PERFORMANCE



That's the guarantee you get when you put a Tulsa Winch to work . . . because Tulsa Winches are precision-made from highest quality materials, then tested to withstand pulls TWICE their rated capacities. They are designed for smoothest operation under the most rugged conditions . . . in a wide range of models and sizes. Also a complete line of power take-offs.

### TULSA WINCHES



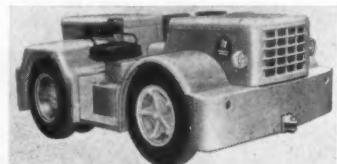
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operator visibility and adding channel stability in extra-high stacking operations. Lifting is accomplished by three nested I-beam lifting members which are raised hydraulically by a multi-stage lift cylinder. Operation of the cylinder requires only two single-lift chains, leaving the rest of the space between the cylinder and the uprights open to give operator increased visibility of the load.

Circle 269 on Reader Service Card

### Tractor Has 15,000 Pound Drawbar Pull

The Paymover Model T-150 Tractor is a compact, highly maneuverable unit designed for



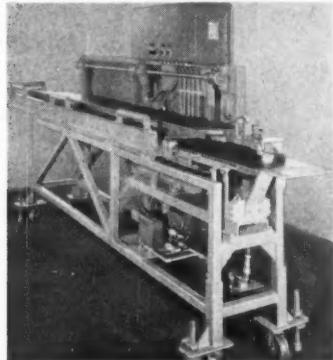
movement of aircraft weighing up to 250,000 pounds as well as in-

dustrial, rail, motor truck terminal and other tractor applications. A product of The Frank G. Hough Co., the T-150 develops 15,000 pounds of drawbar effort and features power-steering, four-wheel-power brakes, and power-shifted transmission. It has dual rear tires, develops speeds up to 22 mph with either gasoline or LPG power. Accessory equipment includes 2-way radio units, aircraft engine starting systems, cabs, snow-plows, sweepers, and winches.

Circle 270 on Reader Service Card

### Strip Stock Feeder Is Automated

Heavy, flat strip stock is fed to presses by a portable, plug-in package automation unit engi-



neered by Press Automation Systems, Inc. The feeder can be adapted to either single-operation or progressive dies. The strip stock is rolled manually into a preload station and automatically lowered to a feeding station by air-cylinder controlled arms. The sheet is fed into the press by a reciprocating mechanism having mechanical grippers. Stroke of the feed mechanism is adjustable for various pressroom applications.

Circle 271 on Reader Service Card

### Truck Line Extended

Yale Materials Handling Division, The Yale & Towne Manufacturing Company, has extended its K-48 line of medium capacity, electric-powered metals handling trucks to include smaller models of 15,000 and 16,000 pound capacity. The lower limit of this



line (previous capacities: 18,000 to 30,000 pounds) was extended primarily to meet increasing needs

for lightweight coil handling in the non-ferrous metals industry. A feature of the K-48 line is smaller overall dimensions to facilitate operations in congested areas. The new lower capacity models measure 124 inches from rear of counter-weight to the face of the fork carriage and 61 inches in width.

Circle 272 on Reader Service Card

### More Power, More Work

The most powerful tractors ever built by the Ford Motor Com-

# lifts 1000 lbs.

**to full height  
in 6½ seconds**

... yet weighs only 1,050 lbs. New fork truck is built by Prime-Mover Co., Muscatine, Iowa, powered by a 6.8 hp. Wisconsin Engine.

The high torque characteristics of the Wisconsin Heavy-Duty Air-Cooled Engine enables this little unit to climb a 20% grade with a full 1,000 lb. load, passing through narrow and low doors on the way. Another example of *light-weight, heavy-duty* engine power at work!

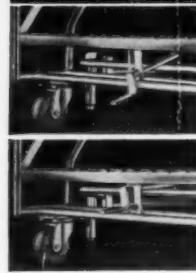
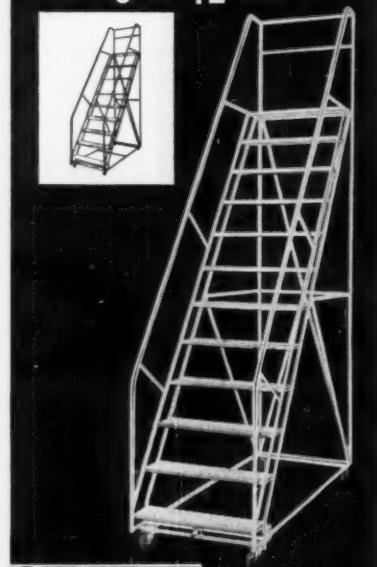
Specify Wisconsin Engines on your next lift truck or other engine-powered equipment. And write for bulletin S-195 covering all Wisconsin Engines.

**IT'S  
WISCONSIN  
POWERED**

**WISCONSIN MOTOR CORPORATION**  
World's Largest Builders of Heavy-Duty Air-Cooled Engines  
MILWAUKEE 46, WISCONSIN

WORK AT  
**HIGH LEVELS  
SAFELY...**  
ON BALLYMORE  
"Hi-boy" SAFETY-  
STEP LADDERS

FROM 9 TO 12 STEPS



**FOOT-OPERATED  
BALLYLOCK**  
Step-on brake casters on front of ladder grip floor . . . prevent ladder from rolling, wobbling or "kicking out." When pedal is released, Ballylock quickly retracts by spring action.

Strong, safe, and easily moved about, Ballymore "Hi-boy" Step Ladders provide sure support at extra-high working levels—up to 15 feet!

All-welded steel construction . . . rust-resistant aluminum finish. Smooth-rolling casters provide complete mobility. Rugged step-on Ballylock extends front legs for firm, stable floor contact. Four sizes, six models to choose from—each with sturdy handrails. Three types of non-slip tread construction.

Write today for complete specifications to Ballymore Company, West Chester 5, Pa.

**BALLYMORE  
LADDERS**

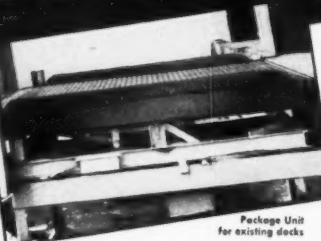
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**T & S DOCKLEVELERS**

Full Floating — Self-Adjusting



Package Unit  
for existing docks

**SOLVE Loading Dock Problems**

COMPLETELY mechanical operation. No motors . . . No controls . . . No hydraulics. Truck traffic can be serviced quickly and safely 24 hours a day with no attention. Available in Recessed Models, Package and Semi-Package Units, 8' x 6' and 10' x 6' all 20,000 lbs. capacity. Rugged steel, welded construction.



**RECESSED MODELS**

Write now for  
full details

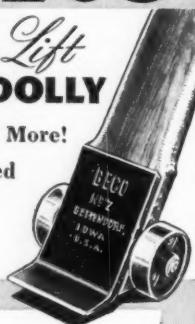
**T & S EQUIPMENT  
COMPANY**

968 Austin Avenue ALBION, MICH.

**The BECO**

*Super Lift*  
**LEVER DOLLY**

- Why Pay More!
- Guaranteed
- Stronger
- Safer



- For immediate shipment, wire phone, or pin this ad to your letterhead and mail to:



**BEKO - Bettendorf, Iowa**

Four Models • Metal or Rubber Wheels  
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The perfect type of tire to fit practically all industrial needs is the Phoenix cured-on solid rubber tire with the exclusive E-Z Rolling Tread Compound. Or if you need a special tread, such as hard rubber, static conducting or oil resisting, Phoenix has the answer. Be sure to check Phoenix—a dependable source for cured-on solid rubber industrial tires for 25 years!



Write for  
folder giving  
load-bearing  
data for 53  
standard  
sizes.

RUBBER PRODUCTS DIVISION

**PHOENIX**

MANUFACTURING COMPANY

Founded 1882

JOLIET, ILLINOIS

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FLOW

## NEW EQUIPMENT SECTION

pany are included in its new line being manufactured by the Tractor and Implement Division. The Powermaster class, which includes

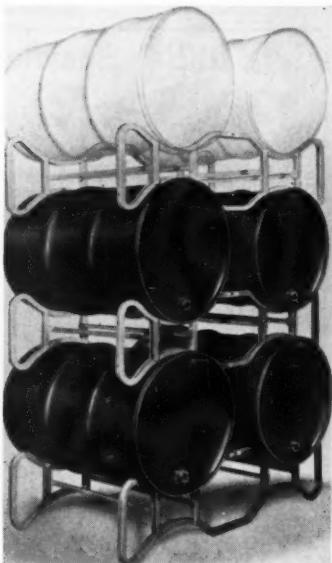


6 models, develops 44 drawbar horsepower, a boost of 10 per cent over former models. The Model 341 Powermaster (illustrated) has optional power steering.

Circle 273 on Reader Service Card

### Barrel Rack Lifted by Forks

A steel rack designed to permit the stacking of barrels and drums with standard fork lift trucks has



been developed by the Pressed Steel Division, Republic Steel Corporation. A two-drum lift can be made from front, back, or either side of the unit. The same availability applies to a single top drum: it can be removed from the supporting rack with fork tines from any side. Since there is no container contact, the barrels are

safe from dents and punctures, says the manufacturer. One unit will support 7,500 pounds in 18-gage drums and 14,000 pounds in 16-gage drums.

Circle 274 on Reader Service Card

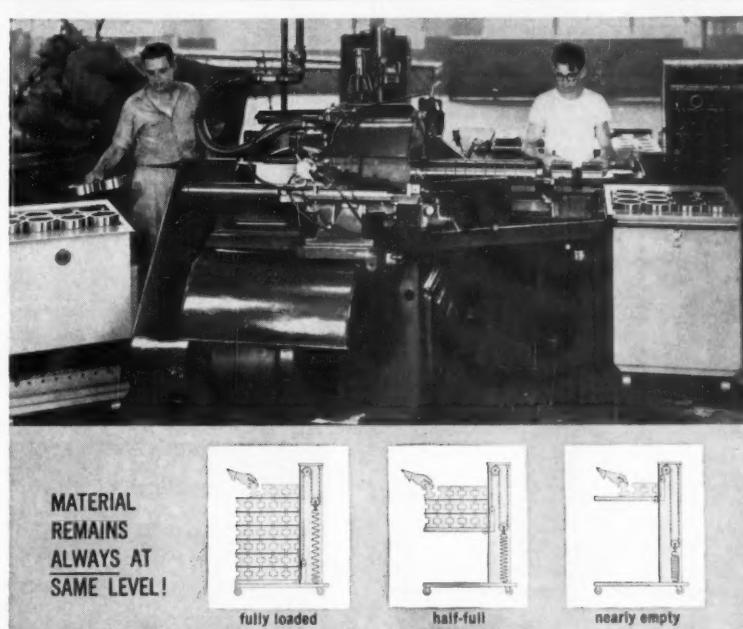
### Washes Tote Box Contents

An addition to its line of cleaning equipment—a machine designed for washing tote boxes and small metal parts—has been announced by The Magnus Chemical

Company, Inc. Power spray washing is combined with dip-immer-



sion-agitation, a method in which the basketed parts are moved rapidly up and down in solution.



### SKF INDUSTRIES uses **AMF LOWERATOR\* WORK POSITIONERS**



### LOWERATOR\* WORK POSITIONERS

1. to automatically position material at work-level
2. to protect parts before and after machining
3. to eliminate needless bending, stooping and reaching

AMF Lowerator Self-Leveling WORK POSITIONERS, positioned next to centerless grinders, keep planned supplies of SKF bearing races *always at constant height*. As one operator removes races from top bank of Lowerator-held supply and feeds them into machine, other man removes finished parts, puts them into second WORK POSITIONER.

Actuated by a calibrated spring mechanism, the Lowerators keep material *always at the planned working/dispensing level*, whether the unit is full, half-full or nearly empty. Material is protected because races are *placed* in Lowerator WORK POSITIONERS, rather than dropped into bins. Because operators' movements are all lateral, stooping, bending, reaching and resultant fatigue are eliminated.

AMF Lowerator WORK POSITIONERS are available in sizes and capacities to meet each specific work positioning problem.

#### WRITE FOR ILLUSTRATED LITERATURE

\*LOWERATOR is the registered AMF trademark for self-leveling dispensers.



#### LOWERATOR DIVISION

American Machine & Foundry Company

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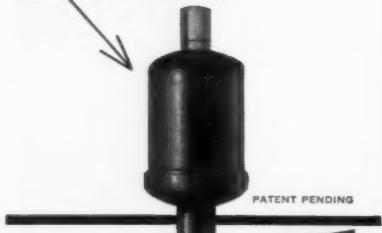
**From this...**



**to this...**



**with this!**



**A Low Cost Greer Damper Makes the BIG Difference!**

**NEW DAMPER ENDS DAMAGE FROM SHOCK!**

Don't let shock steal your production and profits! Install the new Greer Damper easily, quickly and at low cost... then see and feel the big difference!

**Longer Life for Lift Truck!** Greer Damper eliminates harmful shock that damages cylinders, hose, packings and causes structural strain. Parts last longer and perform better! Cuts downtime and maintenance. Reduces operating costs.

**Save Spillage and Breakage!** Fragile glassware, eggs, bottles, bags of cement — anything can be handled faster, safer. Reduces danger of costly delays and customer claims for damaged goods.

**Up Driver Output!** Driver rides more comfortably with closer control over direction and load. Lift trucks move faster with bigger loads with the Greer Damper to absorb the shock and vibration.

**SEE YOUR LIFT TRUCK DEALER**

for Greer Bulletin 1100 for full details, or write: Greer Hydraulics Incorporated, Jamaica 30, N.Y.

Circle 66 on Reader Service Card

**NEW EQUIPMENT SECTION**

Basketed parts are automatically transferred from point of loading through the wash and rise stages to the unloading station.

Circle 275 on Reader Service Card

**Log-Loading Attachment Reaches "Far Side" of RR Car**

A pulpwood loader attachment has been developed for The Yale & Towne Manufacturing Company's G-3 Series lift truck which is capable of loading logs onto the "far side" of a railway car. The attachment's 132 inch outreach permits placement of a load across the car even when a load is already in place on the side of the car nearest the truck. Loads are lifted in carrying slings; the sling hooks are disconnected by a hydraulic tripping device for unloading. The disconnect device is re-



triggered to grip another load with the same handle that resets the hooks.

Circle 276 on Reader Service Card

**New Capacity Added to Line**

Portable, battery-operated lifts are available from Crown Controls Company, Inc., in three new models, each rated at 1500 pound capacity. Lifting and lowering are controlled by a single, throttle

**CAPCO DOCK COVERS**  
GIVE  
YEAR 'ROUND PROTECTION

CAPCO Dock Covers completely enclose the space between car and building doorways protecting loading and unloading during bad weather... preventing accidents... insuring against loss of heat or refrigeration. 51 different models in any size for every loading problem.



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and name of nearest distributor.

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**Safe DRUM Handling**



Easy to install  
on any standard lift truck.

**LIFTS  
TRANSPORTS  
STACKS**



**TRAY-HART DRUM CARRIER**

- Alignment compensator automatically places drums into gripping position.
- Carrier loads over drums.
- Gravity action causes gripping shoes to securely hold load.
- Release can only be effected by application of hydraulic pressure.
- Standard models handle standard 55-gallon drums in diameters from 22 $\frac{1}{4}$ " to 24 $\frac{3}{4}$ " and permit 6" variation in height in same load.
- Special types available for Monorail, Crane, and other applications.

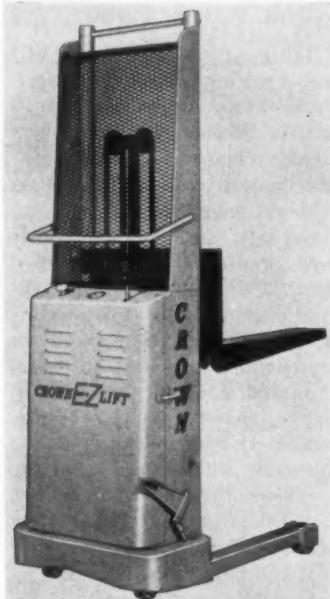
**TRAY-HART CYLINDER CARRIERS**

- All sizes and types of cylinders handled with ease.
- Quantity according to lift truck capacity.
- Write for complete information

**WALZ & KRENZER, Inc.**  
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**FLOW**

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type control; cylinders raise the load to any height between 56" and 76", depending on the model. Floor locks designed to grip any surface are located on each side of the chassis. A 12 volt industrial storage battery supplies power.

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## FREE!

A "Visual" portfolio of recent installations of  $\frac{1}{4}$ -scale plant layouts, developed for some of America's largest firms, together with price lists and brochures on 3-dimensional planning equipment.

Plan your plant properly!!

Cost:  $2\frac{1}{2}$ c to 6c per square foot, including patented templet method of reproduction.

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DECEMBER, 1957

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medium-duty  
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belt  
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Add . . .  
Alter . . .

customer-assembled  
conveyors and systems  
from a complete line  
of standard slider  
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Available in a variety of standard belt widths  
drives speeds and models.

We manufacture a complete line of UNITIZED design belt, chain,  
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**TIRE AND WHEEL ANALYSIS**

**cuts materials handling costs**



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SAVE up to 50% on industrial tire costs, up to 20% on maintenance costs, with a FREE B.F. Goodrich Tire and Wheel Analysis of your materials handling operations. Your B.F. Goodrich man knows which tire is right for your work. Without cost or obligation he'll study your equipment, loads, hauling surfaces and any special problems you may have. Save money! Write today for your FREE TW Analysis to Dept. TW-668, B.F. Goodrich Tire Company, A Division of The B.F. Goodrich Company, Akron 18, Ohio.

Specify  
B.F. Goodrich tires  
when ordering  
new equipment



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opens any box car door  
with the famous NOLAN  
One-Man Car Door Opener!

**ONLY \$39.50 EACH**  
F.O.B. NOLAN CO., BOWERSTON, OHIO

The 1957 model Nolan One-Man Car Door Opener easily multiplies one man's strength a hundred-fold and more! Opens the most dangerous box car door with little effort in 20 seconds or less, without danger to life or limb! Save time and money with the Nolan!

Send Coupon Now!

THE NOLAN COMPANY  
110 Pennsylvania Street, Bowerston, Ohio

Please send  ONE-MAN CAR DOOR  
OPENER at \$39.50  
 FREE LITERATURE

NAME.....

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CITY..... ZONE..... STATE.....

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## THE CASE FOR V. C. I. . . .

(Continued from page 90)

The evidence is in. These tests and others like them show that in most cases supplementary oil coatings are not needed with VCI. The time has come to stop using them.

There is one exception to the above—one condition that will probably require the continued use of supplementary oil. That is for the protection of rough surfaces. At a roughness approximating a sand-blasted surface, some VCI's seem unable to protect adequately against rusting. Here a combination of VCI and oil is called for. However, when using oils with VCI's for any purpose, it is imperative to check the compatibility of the two materials.

### Determining Compatibility

No satisfactory way has been developed yet to check the com-

patibility of VCI with various materials such as oils, paints, and other non-metals. Work along these lines is now under way at the Aeronautical Materials Laboratory in Philadelphia. By raising temperatures to 150 degrees F. and higher, reactions of VCI are speeded up, making accurate study possible in a short time. Using this method, it may be possible to develop standards of compatibility. The results so far are encouraging. Another need still remains unanswered in VCI packaging. That is for some kind of indicator to tell when a VCI has lost its effectiveness and repackaging is necessary. It may turn out, in the long run, that inhibitors are more than adequate for the storage life of most items. Some VCI's have been known to be effective as long as five years—much longer than the life of the product they were protecting. In such cases repackaging would not be needed. But in other cases, the VCI might conceivably lose its power. So far there is no accurate way to tell when this has happened.

### VCI in Various Forms

The most common use of VCI is as a coating for wrapping paper. Paper wraps are simple and effective. Because the paper completely encloses the item, proper distribution of the chemicals is achieved automatically.

Crystals are another widely used form of VCI. The Navy used them successfully to preserve aircraft engines and is experimenting with other uses. Sometimes the crystals are converted to liquid form and atomized, providing effective, almost instantaneous protection. However, do not confuse atomizing with aerosol spray. So far, aerosol sprays have not been completely satisfactory for applying VCI.

If you want to use VCI packaging, call in one or more of the competent manufacturers and talk over your problem with them. They are in a position to tell you what you can and cannot expect. VCI is not a packaging panacea. Nor is it a flop. The truth lies somewhere in between. It depends on your needs.

## NEW LONDON "Moto-Belt" CONVEYOR



- PRODUCTION
- ASSEMBLY
- PACKAGING
- INSPECTION

LOW  
COST

Hundreds of USES . . .  
ADAPTABLE to practically ALL conditions!

BELTS: 2" to 18" wide; White Cotton or Stitched Canvas; Rubber or Neoprene; Plastic or Wire Mesh.

Variable Belt® Speeds — Adjustable Stands — Side Rails — 10' sections up to 80' — Steel, Aluminum or Stainless Steel.

Investigate TODAY — Send for Catalog  
NEW LONDON ENGINEERING CO.  
DEPT. F, NEW LONDON, WISCONSIN

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## Safer liquid transfer

for MODERN INDUSTRY

Want to handle industrial liquids with greater safety? Then install Tokheim hand pumps—specially adaptable to maintenance and production work. They help prevent spilling, slopping, over-filling, dripping. Your plant is kept cleaner—work is speeded—waste halted—accidents prevented.

Operating on both forward and backward strokes, these efficient pumps deliver 20 gallons per 100 strokes. Available with hose or spout outlets—also other interchangeable accessories. No plant should be without a battery of Tokheims.

Call your dealer, or Tokheim representative; write today for literature—including approved list of liquids.



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FM

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FLOW

## CLASSIFIED ADVERTISING SECTION

### USED EQUIPMENT—MEN—JOBS—LINES

Rates: for "Positions Wanted" \$8.00 minimum, limit 25 words. For all other classifications \$10.00 minimum for 25 words; each additional word 25c. Boldface type or all caps, \$12.00 minimum for 25 words, each additional word 35c. Box address counts as five words. All insertions payable in advance.

#### FOR SALE

One single deck roll-carrying, flatbed platform truck, capacity 3500 lbs., deck 10' long  $\times$  40" wide, practically new. Address reply to: Peter J. Schweitzer, Inc., Spotswood, New Jersey.

#### USED EQUIPMENT

410 Steel storage racks, open both sides, with middle partition and shelf making four storage compartments, over-all dimensions 51 1/2"  $\times$  43"  $\times$  63". 7" underclearance, can be double decked. Excellent condition. Hoague-Sprague Corp., P.O. Box 911, Lynn, Mass.

#### Job Hunting?

Here's a FLOW service to aid those who hesitate to answer "blind" advertisements in our Help Wanted column. Rather than jeopardize your present job by having your letter fall into the hands of your own employer or some other unwanted firm, just send FLOW a list of the "taboo" firms along with your letter. If the advertiser is on your list your letter will be returned.

#### MANUFACTURER'S REPRESENTATIVES WANTED

Duluth, Minn.; Evansville, Ind.; Fresno, Calif.; Grand Rapids, Mich.; Philadelphia, Pa.; Spokane, Wash.; Wichita, Kansas; and State of West Virginia territories now open for complete line of nationally advertised floor trucks, casters and wheels. Pioneer company, well established. Exclusive protected territory on commission basis, but other arrangements will be considered. Write c/o FLOW, Box 12157.

#### DEALERSHIPS AVAILABLE

Manufacturer of nationally known line of more than 70 different types of specialized hand operated trucks has openings in certain areas for aggressive materials handling equipment dealers. Write for full details today c/o FLOW, Box 12257.

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OVERHEAD ELECTRIC TRAVELING CRANES



ELECTRIC HOISTS



CHAIN HOISTS AND TROLLEYS



# CONCO



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AFFILIATE:  
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DECEMBER, 1957

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PUSHING THE  
HEAVIEST LOADS  
—A SNAP!



LONGER  
LIFE  
WITH  
MAXIMUM  
SAFETY AT  
LOWER COST!



FREE and EASY  
WHEELING—turns on  
its own axis.

MET-L-ITE ALUMINUM TRUCKS are  
engineered with your requirements  
in mind—including one-piece  
formed deck for minimum weight  
and maximum strength.

MET-L-ITE manufactures a complete  
line of lightweight aluminum trucks:

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- Tow Line Trucks—Overhead and Floor Tow
- Shelf Trucks
- Specialists in Aluminum Material Handling Trucks

Consult us for your specific needs.

MET-L-ITE PRODUCTS DIVISION  
**VOLTZ BROTHERS, Inc.**  
2552 INDIANA AVENUE • CHICAGO 16, ILLINOIS  
EXCLUSIVE DEALERSHIPS IN SELECTED AREAS

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# New Power Package for Lift Trucks!



## New LP-Gas Carburetors Jetted to Performance Curve

New, compact Century 3C Carburetor employs the famous metering valve which is calibrated for perfect power curves... easy starting... and perfect idling. Available in  $\frac{1}{4}$ ",  $\frac{3}{8}$ " and 1" SAE sizes. Requires only tune up adjustment.



## New Small Converter



Cast-in chambers for gas and water give this small Model H Century Converter a king-size capacity. Weighs only 3 lbs. Is  $\frac{5}{8}$ " in dia. by 3". Has built-in lockoff and manual or electric primer.

## New Fuelock-Strainer

Small compact unit is a filter-strainer and an ignition controlled fuelock. Provides extra safety when truck is idle. Easy to install; easy to clean.

Write for new brochure entitled "How to Reduce Fork Lift Operations Costs with LP-Gas."



Century carburetion equipment is registered under Underwriters Laboratories, Inc.

**CENTURY**  
LP-Gas Carburetion



Century Gas Equipment Plant  
Marvel-Schabler Prod. Div.  
625 Southside Dr., Decatur, Ill.

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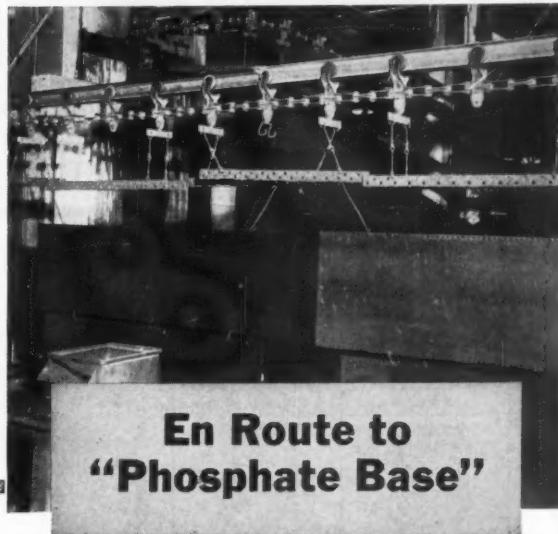
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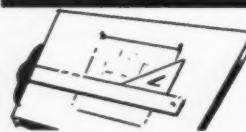
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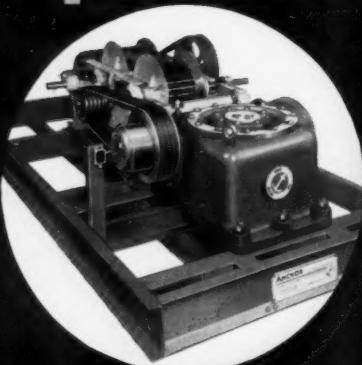
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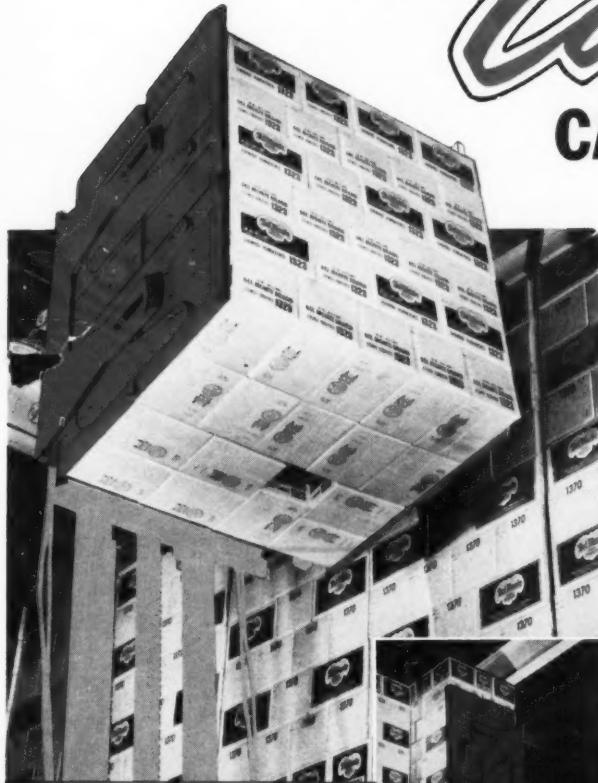
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